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AUTHOR	Helminski, Laura
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ABSTRACT

From April to September 1995, Arizona's Maricopa Community College District (MCCD) conducted interviews with faculty and staff to develop a database of innovative practices related to the District's desired learning paradigms. This report describes results from the study in three sections. The first section summarizes the project's research activities and results related to MCCD's four learning paradigms: learning is a lifelong process that should be measured in a consistent and ongoing manner, everyone is an active learner and teacher, the learning process includes the larger community, and learning occurs in a flexible environment. The second section discusses reactions and implications of the report, including possible uses of the database of practices and the need for more research from and on students. Finally, the third section provides 52 entries from the database of best practices, grouped by their alignment with the four learning paradigms. Each entry includes a description of the practice; information on the faculty members and college initiating the practice; an analysis of the relationship of the practice to the learning paradigms; a discussion of institutional resources involved in supporting the practice; and descriptions of the extent of implementation, outcomes, evaluation, and student feedback or responses to the practice. (TGI)

Final Report and Summary

Research: Current Best Practices for the Desired Learning Paradigm

MCCD, April - September, 1995

Submitted by
Laura Helminski
Faculty
Rio Salado Community College

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I. Research Summary

A. Research Activities

I have been an active participant in the MCCD PEW Roundtable since its start in 1993. In January 1995, I submitted a proposal to Donna Schober regarding research that I considered might be important for the Roundtable discussions. Many of our Roundtable discussions, and a number of the mini-Roundtable discussions, seemed to indicate that data collection on current practices in MCCD would be helpful. Comments were frequently made that there were practices already underway that reflect or meet the key concepts of the Desired Learning Paradigm. This led to several discussions regarding the words 'old', 'traditional' 'current', 'new', and 'desired' as we tried to fairly and objectively describe our ideas for reform or redesign. These discussions reinforced the need to collect data on current Best Practices.

I wrote a proposal for a project of research, data collection, and analysis. The focus of the project would be to research the Best Practices that currently exist in the district. The proposal was submitted to the PEW Roundtable members at the February meeting, with comments and discussion on intent, and on activities. The members present reviewed the points in the draft for the interview questionnaire that I submitted. I chose these points in the interview questionnaire because I was interested in understanding as many 'views' or aspects of the Best Practice as I could. I believe that this will make the data base more valuable, and give us 'system' information. The idea of a district wide data base was seen as a way of documenting a baseline, for discussing where we currently are in moving toward the Desired Learning Paradigm, and as a valuable resource for the district.

I presented a request for names of innovators to the Deans of Instruction at their April meeting, and to the Occupational Deans at their May meeting. They had a number of questions and helpful comments and feedback. Some of the deans submitted names immediately; most of them submitted names after a 'gentle reminder'. After I received the names, I proceeded to interview these innovators, by asking them the questions in the interview questionnaire. Less than half of them were familiar with the Maricopa Roundtable Policy Perspectives.

I communicated with Ron Bleed's staff to discuss the process for actually creating the district data base. The idea was to have this data base become available within the district and externally over the WWW. However, after discussions with several colleagues, I suggested that we use the data base internally first, and see what feedback we receive, before we go any further.

The contact with the innovators took several months and repeated phone calls and A-1s, because of busy schedules, final exams, and summer vacations. I evidently overestimated the availability of a number of the faculty in the summer months, and had to do more of the interviews at the start of the 1995-96 academic year that I had originally anticipated.

The faculty and staff that I interviewed were very willing to answer my questions, and share information with me. The length of time of the interviews varied quite a bit, but many of the faculty were quite enthusiastic and eager to discuss, in great detail, their work with me. (It was really an incredible experience to visit with so many of my colleagues.) Many people sent additional information to me. As I input their responses to my interview questions, I tried to keep the text brief, yet as clear and as definitive as possible. I certainly wanted to represent their "Best Practice" as well as I could. (I found I had to work hard at being objective, and not let my 'filters' work overtime.)

The next step was to send a letter to the innovators requesting that they review the draft I had written for any corrections, or clarifications. A number of people requested the chance to see their 'write up' before it went into the data base, so I had to add this step for accuracy and completeness. I explained my definitions or criteria for the way I wrote up their responses, and hoped that this helped to ensure the quality and consistency of the data. Several people made many changes in the data/report; some just corrected my terminology, etc.

I also sent A-1s to the Deans of Instruction and the Occupational Deans, listing the names of the innovators from their campuses that I had interviewed. I wanted to present another opportunity to make sure that the initial data base was at least complete as possible so that it could serve as a baseline for analysis and discussion by the PEW Roundtable. It is certainly clear that the data base will never be complete; it will always need to be updated if it is perceived as valuable.

Several people found it very difficult to schedule time for their interview; obviously their schedules are such that they are rarely in their offices, or when they are, they have students coming in. (I was not able to complete three of the referrals given to me.) The last few interviews were completed in the beginning of September. Rewrites and edits took considerable time during these weeks also.

This final report and summary was drafted with the intent to look at all of the interview 'write ups' in as many different ways as possible, and to give a sense of what I heard when I talked with my colleagues. Most of their information is contained within their Best Practice data. But a number of their comments, not directly related to answering my questions are relevant to change in MCCD. I have tried to reflect on these comments and capture these, because I think the comments are reflections on important issues. . These comments were made by those named as innovators in their colleges, and therefore they offer an important voice. However, in almost every case, these people asked me to note that these comments were 'off the record'.

B. Summary by Key Concepts

The primary intent of this research and data base was to be able to collect data on the existing "Best Practices" that meet or align with the key concepts of the Desired Learning Paradigm. The innovators made the judgment themselves as to 1) which concept their work aligned with, and 2) how they judged their work aligned with it. Therefore the most valuable way to 'sort' the data collected in these interviews was by each key concept.

It is important to note that many of the innovators indicated that their "Best Practice" aligned with more than one of the key concepts. I had to ask them to select the key concept that they aligned with most, and then listed additional concepts that they also mentioned. The MCCD PEW Roundtable certainly never intended that these key concepts reflected separate and distinct characteristics. But many people indicated a strong overlap, and questioned the wording in the four statements. I did discuss with some that these concepts are a framework, and that from the perspective of a learning organization, we are still developing how we can move forward with all of these discussions.

It is also important to note that these innovators were 'named' by their administrators, and had not previously thought about their work as necessarily aligning with the key concepts of the Desired Learning Paradigm. Less than half of them were familiar with the draft of the Maricopa Roundtable Policy Perspectives document. Therefore, when asked which concept their work aligned with, they answered from their own 'mental models' and definitions. I did ask them to complete the sentence "this Best Practice meets or align with this key concept because...". But their responses pointed out that many of the terms in the key concepts are, in fact, quite general and even vague. So, I came to realize that I could not ask them "why" they decided they did align, or "how " did they know this. It quickly became apparent to me that we had not realized how hard defining terms would be. I do not know if a scale could be devised that could measure these concepts, or how valuable this would be. (It would take a great deal of time.)

The data base collection on Best Practices is grouped, and summarized, by key concepts. The innovators were asked "which key concept of the Desired Learning Paradigm does you work meet or align with, and why?" Fifty two interviews were completed. Twelve of the innovators indicated that their work aligned with all four of the key concepts. Section III in this report lists the Best Practices by each key concept. There is no intent to rate these Best Practices, so they are listed alphabetically by college, within each grouping.

Key Concepts of the Desired Learning Paradigm:

#1) Learning is a process which is lifelong for everybody and should be measured in a consistent, ongoing manner focused on improvement.

Summary: **3** of the innovators of these Best Practices indicated their work most closely aligned with this first key concept, and **24** people indicated their work somewhat aligned with this concept. Two of the best practices, the Dreamcatcher Project and the K through Gray Electronic Learning Community program, seem to clearly deal with time, with the learning reflecting many years of age or of study. The work in TQM in the Classroom focused on measuring learning in a consistent ongoing manner, focused on improvement.

Most people expressed that, of course, learning is lifelong. They also felt that this key concept had two parts, and they didn't all agree with the second part. One innovator questioned why we had to measure everything - that learning had value without always being measured. Others indicated they were not emphasizing measurement that occurred in a 'consistent ongoing manner focused on improvement'.

#2) Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.

Summary: **30** innovators of these Best Practices identified this key concept as the one their work most aligned with, and **11** more indicated their work somewhat aligned with it. Innovators in MCCD seem very interested in the four phrases (elements) in this statement - active learner and teacher, collaboration, shared responsibility, and mutual respect. Many people used these exact words when describing their work. Several of the faculty indicated they have been using these teaching methodologies or 'approaches' for many years. They state that their work keeps evolving and developing - to increase the level of active participation, collaboration, etc.

Many descriptions of these Best Practices refer to variety in the teaching methods, and to specific activities and expectations of the students. Students' responses to these best practices refer to how valuable these experiences are for them, and that these experiences are so different from their other teaching and learning experiences. One faculty innovator recalled a student who said that "she didn't know how much she appreciated the freedom to think, until this class gave her the opportunity". In another faculty innovator's class, one student said that "it was the first time in his life that he enjoyed coming to school."

Some people questioned me about the phrase 'active learner and teacher', and asked me how we really meant this. A few faculty specifically pointed out, that in their Best Practices, the students not only teach each other, the students actually teach the teacher. But, one faculty member said this statement was incorrect; not everyone could be a teacher - it is an art.

Also, many faculty identify these phrases as characteristic of their classrooms, and even of their colleges, but do point out that these are not characteristic of the district as a whole. Some are accepting; some are frustrated by this. Most are too busy focusing on their teaching and their students to speak to how this could be changed.

#3) The learning process includes the larger community through the development of alliances, relationships, and opportunities for mutual benefit.

Summary: **10** innovators of these Best Practices in this data base indicated closest alignment with this key concept, and **17** innovators indicated that their work somewhat aligned. There were several examples of Service Learning efforts, and of specific alliances with businesses or school systems. The primary characteristic was that the students and their learning were focused on efforts off of the campus. There is an emphasis on curriculum development in these innovations.

#4) Learning occurs in a flexible and appropriate environment.

Summary: **10** innovators of these Best Practices indicated closest alignment with this key concept, and **22** innovators indicated their work somewhat aligned. Six of these people described innovations that use technology within the classroom and outside of the classroom that enabled learning. Three of these innovators referred specifically to approaches that were flexible and varied as key characteristics.

C. Summary by Interview Questions

Another way to 'sort' the data is by interview question. This should give different information about the characteristics of the Best Practices.

The reason for asking for a Brief Description of the Best Practice was to look for common factors or key words. These were discussed in the previous section, by key concept.

The reason for asking about Background / History of this Best Practice was to collect information answering these questions: how did you get started? how long ago? what has happened up to this point? The responses indicate that often a workshop or conference was the impetus for exploring and developing a best practice. These experiences sometimes led to faculty working together as a team. Grants often provided the resources for an individual or this team to develop their ideas.

The reason for asking about Resources Involved for support of this Best Practice was to collect information answering these questions: what is needed to start up and/or support this practice? what would another person or college need to replicate, or develop their own version of this innovation? The responses indicate a consistent need for financial resources, for time, and for a support group, a team, that would help develop the best practice. I found a degree of stress and anxiety that the time needed was almost always underestimated. Exploration and development are not linear paths, and often result in learning from pilots, and trial and error. Other important resources are training programs that include mentoring and follow up, and systemic changes for faculty accountability, load hours, etc.

The reason for asking about Extent of this Best Practice was to collect information answering these questions: how 'far along' is this practice? how widespread? (in terms of goals of vision) The responses include a wide range of answers. Some best practices are in the development stage; some are as widespread as they are intended to be. Several innovators indicated that the "sky is the limit"; that is, there is no limitation to where this work can go or what it can do.

The reason for asking about Outcomes of this Best Practice was to collect information answering these questions: what are the results, the outcomes that you expect? what are you seeing? how is it going? The responses indicate an emphasis on metacognition skills, having the students think about and learn about their own learning. Many innovators also commented on seeing increased students' skills in writing, reading, and critical thinking. A few people indicated a focus on outcomes that would directly help students in the 'work' world - getting jobs, or on their jobs. There are also several comments about attitudinal and affective outcomes, in addition to cognitive results.

The reason for asking questions about Evaluation of this Best Practice was to collect information answering these questions: how do you know how things are going? what formal or informal measures or assessment is being used or being developed? The responses indicate informal assessment is most often used. Ongoing assessment techniques such as Classroom Research techniques, journals, and surveys are very common. In a few cases, pre and post testing are used. Formal assessment is usually used when there is a grant supporting the innovation. Most of the innovators made reference to qualitative and anecdotal evaluations.

The reason for asking questions about Students' Feedback/Response to this Best Practice was to collect information answering these questions: what are students saying? what are their reactions? The responses indicate that the students are usually very positive about innovations in teaching and learning, even if there is increased responsibility for their actions. In several cases the students were indicating higher or harder levels of work. But in almost every case, the students' comments indicate appreciation and awareness of what they have experienced and what they have learned.

In summary, many of the innovators saw the data base as a good idea. They said they would be interested in having access, and in reading a summary report. Some of their comments referred to the value of a data base if it could save them from 'reinventing the wheel', help them find support or a network, and help them with resources, and with assessment.

II. Reactions and Implications

The first question that needs comes to my mind at this point is the possible use, or uses, for this data base. When I refer back to the notes, and my memory of the Roundtable meetings, it appears that we wanted to have a more common, or shared, sense of what innovation and best practices were actually happening in MCCD. This follows the scientific method of drafting a hypothesis (our draft of the Desired Learning Paradigm), collecting and analyzing data, and then conducting an experiment or pilot. And, this also follows the Plan-Do-Check-Act Model, by brainstorming our vision and then collecting and analyzing data, and then conducting a pilot or improvement.
If this data base becomes our data collection activity, (although certainly not the *only* data collection), then our next steps would be to discuss a pilot or experiment.

I want to make some key points here:
1. This data base is not complete. There are surely other names of innovators of Best Practices that could surface from other sources, from Ocotillo, Instructional Councils, Department Chairs, etc. Or, we could (or should) ask the students to give us names of people who help the students experience the Desired Learning Paradigm.
2. There was no assessment of these Best Practices as actually reflecting the Desired Learning Paradigm. If a name was given to me, I interviewed the person, and included their work. Whether they do reflect the key concept, or to what degree they align with the key concept was not asked or measured, mainly because of the lack of clear definitions.
3. We need to discuss how these Best Practices reflect every aspect of the key concepts. Do we 'need' more Best Practices to align with some of these key concepts? Are there 'enough' Best Practices for each key concept? (was that what we were thinking?) Is there an implication that we need to give more support to the Best Practices that exist, or to the key concepts where there are fewer Best Practices? Was it ever assumed that all four of these key concepts must be equally present? If there are fewer Best Practices in some areas, do we need to support major efforts there?

And, the really important question is: How will we know when we have 'moved' sufficiently into the Desired Learning Paradigm to state that it is (becoming) the current paradigm, as a culture? (is there a critical mass?)

As I reread these Best Practices I find myself asking if they are still limited in 'use'; that is, do many our students experience these, or do most of our students still experience the old paradigm, a less desired paradigm. This seems confirmed in many of my conversations with the innovators. One faculty member said we have had "static classrooms for 100 years." When I asked her why changes in the classroom, in teaching and learning, seem so slow, she responded that "a body at rest tends to stay at rest." She also suggested that what we call 'grassroots' efforts for change are not really from the source we should want them from. 'Grassroots' efforts most often refer to changes coming from the faculty for teaching innovations. She believes that 'grassroots' should really mean from the students, that changes in teaching and learning should come from their ideas, feedback, and involvement. However, this is not common. Another faculty member sees this coming. She indicated that her students leave her and say to other teachers: "We're sorry; we simply don't learn this way." (I'm reminded of a revolution from students that Dr. Myron Tribus called for when he visited MCCD.)

My sense is, that although active learning is a dominate characteristic in most innovators' classrooms, it is still not the experience that most students will have. Each innovator is focused on their work, their 'piece' of the system. But the students move 'through' the 'system', from one educational experience to another. At times they are in desired learning experiences, at times they are not.

We need to define some of the terms and criteria for these key concepts, not to limit or make them absolute, but to give a common frame of reference for conversations. I think many of us have different mental models for "active learning", "evaluation", etc. This evidently was not as much of a problem in the past, when what we 'saw' or experienced in teaching and learning was pretty much limited to lecture -a common experience for most of us. Major characteristics of the Desired Learning Paradigm are flexibility and options and variety. How much common understanding do we need in order to make these pervasive for our students?

I was very interested in noting some common responses to the interview questions. These questions seem, to me, to address many of the 'pieces' of the system (the processes that make up teaching and learning). That is, I couldn't really understand what the innovator was talking about until I had asked them several different questions about their work. Of course there was some overlap in questions and answers, but the people were often thoughtful and reflective, not just trying to recite their philosophy.

I had specific thoughts and reactions to each of the interview questions and conversations. It was interesting to me to ask what the background or history was. I do not know if there is a certain personality 'type' who becomes an innovator. It was interesting to note how many of these innovators spoke about a workshop or conference that sparked a thought, motivated them, or caused them to ask questions. This is important to share with staff development coordinators. Offering these professional development opportunities could be a major factor in furthering innovation. Or, could it be that it is these innovators *are* the people (in some cases, the few people) who attend workshops and conferences, and other people do not. So these other people do not get the 'prompt' or the 'spark' or the 'questions' that might cause them to innovate? I don't know, except that it seems to me I see many of the same faces when I attend workshops.

I was particularly interested in asking questions about assessment. As a classroom teacher, and as chair of the college Student Achievement Committee, I am working hard to improve assessment as a process that increases student learning. My sense was that most of the innovators were working on 'pieces' of assessment, but that many were struggling with any kind of process or system that pulled many aspects of assessment together. And, very few people mentioned Student Services as part of their approach to assessment or evaluation. Again, I have questions about the system of evaluation being clearly thought through.

There is a strong sense that these innovators are focusing all their time and energies on meeting their students' (customers, participants) needs. There was an overwhelming response to the issue of time. Almost everyone of the innovators said that exploring and developing and piloting takes much more time then they would have ever estimated. They put in extra time on evenings and weekends. There is stress and frustration and exhaustion that many of them didn't expect. Taking risks, and trial and error are not always stimulating paths. It was interesting to hear a few innovators point out that having a strong cross functional team really made a difference to them in pursuing their ideas and creativity without quite as much stress. But again, the issue of time, the unexpected amounts of time,

always came up. And they felt that in many cases , the 'system' got in their way. This took more time; time to find ways to work with the system, or to work around it.

I had many conversations about the 'system', the perceived structure of higher education that may not be working well. Since we are pursuing a 'Desired Learning Paradigm, then people could assume that we are not *in* one. One faculty member stated that "PEW (the Roundtable) seems to think that the old structure will support the new paradigm. But it won't. Don't tie my salary to semesters and classes." He continued by stating that "to bring about what PEW wants to do, you'd have to change the whole structure, 15 credit hours, etc". He believes that PEW (the draft of the Desired Learning Paradigm) is "misunderstood and undervalued". Another faculty member said that "these innovations don't just happen. If you are going to be creative...there has to be different accountability issues". He pointed out that there has "to be support for institutionalization of the innovation." And he concluded that this is a "challenge to the leadership to support and encourage innovators. There must be a process for incentives." From another college, a faculty member indicated that innovation means "stepping out of the comfort zone - this takes time and risk. This makes it difficult to change. It is harder to plan; being different can lead to chaos." Still another faculty member indicated that the 'naysayers' can wear you down. She said that sometimes there's a feeling that "there's nobody behind you to support you; you have to take the hits by yourself." More than twelve of these innovators indicated concerns about the system, including a faculty member who pointed out that "the system is not structured to encourage creativity and innovation."

If the major characteristics of the Desired Learning Paradigm are "flexibility and options and variety", then maybe the 'system' needs to have these characteristics also. (I do believe that when most of these innovators are referring to the system, they are referring to operations and policies.)

What happens now?

I don not know. But I do know that I have learned a lot through these conversations with my colleagues. And I am ready for the next steps to occur. I think that discussions regarding the current Best Practices would be very valuable for the MCCD PEW Roundtable. I am aware that the PEW Roundtable has 'merged' with the ACE-Kellog effort, but this would not change the need for, or the value of, such discussions. These will be particularly interesting when discussed with the comments from the mini-Roundtables.

My thoughts on recommendations would include discussing ways of sharing information on Best Practices, opportunities to visit, to mentor, and to model. We need research from/on students, to have students tell us how often, or not, they experience the Desired Learning Paradigm. We need to consider why so many people feel the current system is so limiting, and why we are 'stuck' with it. I mentioned that a number of innovators mentioned workshops or conferences as experiences for motivation. I would suggest that opportunities for more Dialogue Days, not necessarily focused on Disciplines, but on a philosophy or methodology, would further increase these experiences for more faculty.

Laura Helminski

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III. The Data Base (52 Best Practice Data Entries)

A. Best Practices that align with key concept #1

Learning is a process which is lifelong for everybody and should be measured in a consistent, ongoing manner, focused on improvement.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Dreamcatcher Project

Key Concept Met: #1. Learning is a process which is lifelong for everybody and should be measured in a consistent ongoing manner focused on improvement. (This is the key concept when looking from the students' point of view.)
(and #3)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
of the emphasis on lifelong learning, which is exemplified by sharing the art collection with so many different people in a variety of learning communities ranging from the arts and humanities classes (H.S., C.C., university) to college and community visitors. When the project is implemented on the WWW, more people of all ages and interests will access it, which further supports the lifelong learning concept. In addition, the project is designed to teach about the art, culture, and history of the artwork, not just to display pictures. This again reinforces the concept of lifelong learning.

Innovator's / Contact's Name: Donna Rebadow, Health/Phys Ed, Psychology, and BPC Faculty

College: Paradise Valley Community College

Brief Description of this Best Practice:
The Dreamcatcher Project is a visual database of the Jo and Warren Buxton Southwest Art Collection. The Buxtons donated quite an extensive art collection, collected over a twenty five to thirty year span of time to Paradise Valley Community College. The symbol of the Dreamcatcher is key to this project. The Dreamcatcher is traditionally given to children so that the webbing structure will 'catch' their good dreams. Therefore, the Dreamcatcher is symbolic of this Southwestern Art collection; it is catching the dream of the Buxtons and sharing it with people. This is a multipurpose project that will include video, and virtual reality applications

Background / History of this Best Practice:
The art collection was donated to PVCC in the 1989-90 school year and displayed in the library in 1990-91. Donna pointed out that "when people came in to look at the art work, there was only a brief description that told of the artist, the title, the date, and the medium. A team of faculty, administrators, staff, and students received a grant last Spring to create a visual data base that will serve many purposes. Work was started this past summer. Donna points out that they have been

totally supported by the district, the college, colleagues, and students. The team work is essential. Mary Lou indicates that "the teamwork aspect of this project is very important because we get a lot of input and help as well as revisions as we go along on the project."

Resources Involved for Support of this Best Practice:
Administrative support and financial resources are needed to support this project. The money is used for release time, and for students' time. The key to release time/extended contract time is to provide a block of time for the faculty member to work on the project. An hour here and there is not productive because a lot of reviewing and backtracking occurs. Full time work during the summer devoted to the project is most productive. Students and the faculty member accomplish the tasks with fewer frustrations from interruptions and less stress.
Hardware and software resources are also necessary. Technical support is also crucial.

Extent of this Best Practice:
The project is on schedule. A lot of the foundation work is done. They are still digitizing the art, and still working on the history. Donna indicates that they "want to have the data base on the World Wide Web, and press it on a CD for Humanities classes.

Outcomes of this Best Practice:
The goal is to have this data base as a resource that would be available for anyone who might need it. Other faculty members could use it with their students. In addition, the collection will become more available to the public. It will be an opportunity to capture the historical aspects and cultural aspects of the Native American. Having the data base on the WWW will be a wonderful way to publicize the collections, and the college. Finally, increasing awareness of this collection sends the message "philanthropy is alive and well"

Evaluation of this Best Practice:
The evaluation tools are tied into the grant process. At this point, members of the project team is constantly showing their work to people to get feedback.

Students' Feedback / Response to this Best Practice:
Students are involved on the project team, and also in giving feedback. Donna indicates that even in this early stage of development they are trying to get a lot of student feedback.

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: K through Gray Electronic Learning Community

Key Concept Met: #1. Learning is a process which is lifelong for everybody and should be measured in a consistent, ongoing manner focused on improvement.
(and #2, #3, #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
it really demonstrates the concept and value of lifelong learning.

Innovator's / Contact's Name: Rose Pfefferbaum, Gerontology Faculty

College: Phoenix College

Brief Description of this Best Practice.
The K through Gray Electronic Learning Community program links older persons serving as mentors to at-risk inner city students through a computer-based learning environment. Gerontology students also are involved, interviewing geriatric clientele, conducting case studies, and assessing and documenting client status. The school children are taught the system through their participation in the Phoenix College Pueblo Program; the senior adults are taught as part of this program. In its initial stages, computers are being made available to older adults through senior centers and adult day health care centers; seniors who have their own computers are also invited to participate.

Background / History of this Best Practice.
Still in preliminary stages, this Learning Community was recently funded by a District Priority Educational Programs (PEP) grant. The coordinator of the Pueblo Program, Jim Walters, contacted Rose; together they designed an intergenerational program to benefit at-risk school children, older adults, and college students

Resources Involved for Support of this Best Practice:
The knowledge, interest, and time of older adult volunteers represent major resources involved in this mentoring program. In addition, financial resources are needed for staff time, training, and basic supplies.

Extent of this Best Practice:
Rose believes that "this program is truly endless, the potential is just incredible when we think of the number and quality of connections that are possible The program also will eventually result in interpersonal, direct face-to-face communication between the children and the seniors."

Outcomes of this Best Practice:
The program provides socialization and intellectual stimulation for older adults, enhances learning opportunities for at-risk elementary school children, and provides practicum experiences for gerontology students. A major outcome will be to increase awareness of the wisdom and knowledge of elders. Increased communication across generations benefits all. Rose believes that "the electronic medium will be a way to touch people other than through direct physical means."

Evaluation of this Best Practice:
Number, length, and content of interactions will be reviewed. Changes in status (including mood, outlook, and social involvement) of older adult participants will be assessed on a regular basis. Interactions will be monitored to identify barriers to effective involvement.

Students' Feedback / Response to this Best Practice:
Rose has found that "everyone is excited and wants to be part of it. We can't get enough computers to these older adults; their response is incredible It is amazing how vital older people can be even if their physical functions are limited "

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: TQM in Instruction

Key Concept Met: #1. Learning is a process which is lifelong for everybody and should be measured in a consistent, ongoing manner focused on improvement.
(and #2)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
the philosophy of TQM calls for ongoing measurement focused on improvement. This does not replace a teacher's methodology; it adds to it by increasing student involvement.

Innovator's / Contact's Name: Laura Helminski, Reading, English Faculty
Rod Christian, Business Faculty

College: Rio Salado Community College

Brief Description of this Best Practice:
TQM in instruction is an approach to incorporating the principles, tools, and processes of Total Quality Management into instruction on the college level, so that student learning is increased. This approach includes training, sharing of resources, classroom projects, and student feedback. A major focus includes measurement and continuous improvement of teaching and learning.

Background / History of this Best Practice:
Rio Salado began implementing TQM in Instruction in 1992 with pilot projects. Full time faculty were trained in TQM through the 1992 academic year. Semester All Faculty Meeting Workshops and monthly TQM in Instruction workshops for adjunct faculty began in 1993. Three full time faculty had reassigned time to work on TQM in Instruction in the 1993-94 academic year. They conducted a survey that indicated that over one third of the adjunct faculty were using TQM tools in their classes. In Fall 1995, a partnership between Rio Salado and MCCD enabled production of a video: "TQM in the Classroom". The larger picture for integrating TQM is in the occupational areas. The design of the individual courses and curriculum is customer driven, based on their expectations for students' outcomes.

Resources Involved for Support of this Best Practice:
Financial resources are needed for faculty time, for training, for supplies, and for stipends.

Administrative support is very important. And, time and communication are very important factors.

Extent of this Best Practice:
The college is moving from monthly workshops to independent training available through the video and independent training manuals. Semester All Faculty Meeting Workshops will still be conducted. TQM in Instruction is becoming incorporated college-wide through the college Student Achievement Committee, and through the goals of the Faculty Chair program.

Outcomes of this Best Practice:
Faculty who use TQM principles, tools, and processes in their classes report increased student involvement in their own learning and in process decision-making. Students become more conscious of teaching and learning processes, and realize that some of the responsibility for increasing learning is theirs.

Evaluation of this Best Practice:
The very nature of this approach includes continual feedback and data collection, although most of it stays with the teacher and students involved. Most teachers complete regular Plus/Deltas with the students, and collect data on specific processes including grades, tests, homework activities, study activities, test preparation activities, etc

Students' Feedback / Response to this Best Practice
Most students very quickly decide they enjoy becoming more involved in the decision making, and in taking responsibility for their own learning. Students often indicate that they are involved in these kinds of activities at work, and want to see the same in the classroom. One student commented "I know that if the next teacher that we have will use the plus/delta, we would participate more because we saw how you considered our suggestions, made changes, and improved the learning process." She added " If this is the way it is going to be taught under TQM, I hope that it is here to stay and that you guys spread it fast "

B. Best Practices that align with key concept #2

Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Paper)

Best Practice Name, Title, or Subject: New Approaches to Developmental Education- Integrated Learning Communities

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shred responsibility, and mutual respect.

Analysis:
This Best Practice meets or aligns with the stated key concept because:
there is great emphasis on collaboration and service learning as students participate in Integrated Learning communities. The students are spending larger blocks of time together in joint learning projects which leads to greater retention and personal growth.

Innovator's / Contact's Name: Barbara Shovers, English, ESL Faculty, Project Director

College: Chandler Gilbert Community College

Brief Description of this Best Practice:
This program combines courses into an integrated whole so that students see connections between courses, rather than seeing courses as isolated offerings. Integrated Learning is an approach to designing curriculum which unifies learning experiences for students across traditional boundaries of discipline and courses. The current integration is between developmental courses, Reading and English, AAA 150, and Math, with expansion into 100 level courses.

Background / History of this Best Practice:
CGCC started this approach in April 1994 when a group of faculty working in developmental education wanted to do something different. A PEP grant proposal was submitted to the MCCD district, with nine colleges originally involved. For the second year of funding, six colleges are actually involved: CGCC, EMCC, GWCC, GCC, PVCC, and SMCC. Coordinating team members are Barbara Shovers, Becky Richey, Elizabeth Skinner, Nancy Shafer, Sally Rings, and Lillian Barker.

Resources Involved for Support of this Best Practice:
The funds from the PEP grant were used to establish a Coordinating Team of faculty, and for faculty extended contracts and reassigned time.

Extent of this Best Practice

Year one focused on pilots, with six pilots on the developmental level and five on the 100 course level. Year two will focus on continuation and redesign, development of an evaluation plan and tool, and dissemination of information about Integrated Learning. Across the six colleges, 20 faculty from many disciplines are working on planning for the 1995-96 academic year. If funded, year three will address structural and systemic changes that will facilitate future use of Integrated Learning in MCCD.

Outcomes of this Best Practice:

Barbara indicates that "the faculty have developed a framework for practitioners interested in developing an integrated learning community. We have conducted successful pilots. And we have written an annotated bibliography". Student retention and participation are high for this level of instruction, and learning is also beyond expectations.

Evaluation of this Best Practice:

There is an evaluation form used toward the end of the semester, and a high level of use of Classroom Research tools during the semester. The students wrote self-evaluations of what they had learned, and the teachers wrote a reflection of their experience. The coordinating team also wrote a report concerning activities at their college, and two members of the coordinating team wrote a final report.

Students' Feedback / Response to this Best Practice:

Students' comments include: "Now I can see how Reading and Writing go together. It makes more sense"; "we got really close this semester because we spent so much time together. We got to know the teachers well".

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Workshop Physics

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.

Analysis:
This Best Practice meets or aligns with the stated key concept because:
"the number one underlying concept to all of this is active learning"

Innovator's / Contact's Name: David Weaver, Physics Faculty

College: Chandler Gilbert Community College

Brief Description of this Best Practice:
This approach to teaching Physics is based on an environment that is different than the standard lecture / lab approach to science. In the workshop environment, students work in groups on projects that put the teacher in the role of facilitator. There is no such thing as a lecture; the students are in the lab environment the entire time. This is an experiential and experimental environment, where there is considerable use of computers (60-75% of the classtime). The emphasis is on data acquisition by the students

Background / History of this Best Practice.
David has personally been moving in this direction since he started teaching 13 years ago. He attended a three day workshop that was part of an NSF supported program on workshop curriculum.

Resources Involved for Support of this Best Practice
The main resources are space and time. The lecture and lab sections have to be paired. There has to be computer hardware and software, which was obtained primarily through reallocation. There needs to be training, or at least exposure, to the workshop curriculum. The teacher doesn't use a textbook; he uses physics tools and manuals

Extent of this Best Practice:
The use of this approach is as extensive as it can be - the only course offered at CGCC is offered in this approach. David has been doing this for one full year. He believes that this approach can be

furthered into other courses.

Outcomes of this Best Practice:
"There is great improvement in students' learning, they are absolutely better at meeting the course competencies". David indicates that this approach has a process focus, not a content focus. The experiences are designed to affect the concepts and the misconceptions that the students have regarding physics from their real life experiences. In their second semester, the students' tests show they retain and build upon their previous learning, and use it right up to the end of the second class.

Evaluation of this Best Practice:
A pre test and post test of the students' learning is given. David uses the standardized test - the Force Concept Inventory. He also gives assignments and tests, uses simulations, and asks for class presentations.

Students' Feedback / Response to this Best Practice
The students give feedback through journals, and student evaluations, and give this feedback 8 - 10 times a semester. Many students comment on their learning and their reaction to Workshop Physics: "I enjoyed the atmosphere of the lab-based physics class. I actually looked forward to coming to class."; "I feel as if I got a bargain this semester. I traded a small amount of money for problem solving skills that will serve me for the rest of my life."; "There were some times last semester when I found myself asking why we took so much time experimenting and learning hands on. I didn't fully appreciate the many hours spent until I found out that, after Christmas break, I had retained most, if not all of the information presented "; and "I would be reading along in the unit, 'yeah, yeah, yeah, and then I'd have to make a prediction. That meant I had to stop and think. It was a good learning process."

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Linked Calculus and Physics

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.

Analysis:
This Best Practice meets or aligns with the stated key concept because.
the class structure was collaborative, with great emphasis on having the students share responsibility with each other.

Innovator's / Contact's Name: David Weaver, Physics Faculty.
Melinda Rudibaugh, Math Faculty

College: Chandler Gilbert Community College

Brief Description of this Best Practice:
This best practice is a team teaching approach to single sections of Calc-based Physics and Calculus. The teachers teach both classes with roughly a 50% overlap, and with the emphasis being "just-in-time Calculus". Primarily the two teachers are always in both classes. And, the teachers have had to agree on different teaching tools than in their other classes.

Background / History of this Best Practice:
In previous semester, there had been a few students who were taking both classes at the same time. In a spontaneous conversation, both David and Melinda had commented that they noticed that students in both classes were learning more, that students who took these classes in different semesters.

Resources Involved for Support of this Best Practice:
David describes the resources needed as "moral support in the first year, and support for your teaching load in the second year".

Extent of this Best Practice
David and Melinda have taught Linked Calculus and Physics for two years. They have had discussions regarding the future, taking this linking to other levels and other courses.

Outcomes of this Best Practice

On the average, students co-enrolled in both classes did one full grade better by the end of the semester. David indicates that "although this was a relatively small sample size, this teaching approach raised many interesting questions and insights. It helped to tighten the mathematics curriculum, by making us ask 'why are you teaching that?'"

Evaluation of this Best Practice:

Students, co-enrolled and non co-enrolled, participated in the Electronic Forum. They were frequently asked to give feedback on how things were going. Evaluation was also addressed through assignments, tests, and grades.

Students' Feedback / Response to this Best Practice:

Initially, students often commented that 'this is way too much work'. Both teachers are adamant about out-of-class-work. However, by the end of the semester, students realized they were learning more. And, students who returned from the University felt that they were very well prepared for the University coursework.

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Collaborative/Cooperative Learning

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #1, #3, #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
Collaborative Leaning activities promote active learning, peer teaching, and shared responsibility.

Innovator's / Contact's Name: Margaret Hogan, Dean of Instruction
Brenda Larson, Business Faculty
Melinda Rudibaugh, Math Faculty
Maria Hesse, Business Faculty

College: Chandler Gilbert Community College

Brief Description of this Best Practice:
Collaborative Learning is a structured approach which involves students working together in small groups to achieve a common educational goal. It is often used in conjunction with other active learning strategies, such as case studies, or writing across the curriculum. It can also be used to make a lecture more interactive. What Collaborative Learning *isn't* is a synonym for the old "group project". In Collaborative Learning, the teams are formed by the instructor, the activities are tightly structured, the students function in assigned roles, and the teachers role is to be a facilitator.

Background / History of this Best Practice:
Initial discussions four years ago dealt with developing a training model for staff development at CGCC. The Faculty Division Chairs decided to focus this model on long term staff development, and indicated that the primary effort would be Collaborative Learning. An English Faculty member, who was also Staff Development Coordinator, had previous training in Collaborative Learning, and provided a great deal of training and content for faculty interested in Collaborative Learning.

Resources Involved for Support of this Best Practice:
Release time is needed for trainers who are working with faculty in Collaborative Learning. Money is needed for stipends for adjunct faculty to attend this training; full time faculty have received one credit for professional growth. Money is also needed for Collaborative Learning textbooks. There is also strong administrative support and involvement in Collaborative Learning at CGCC.

Extent of this Best Practice:
There is a complete staff development model for Collaborative Learning as a teaching/learning strategy at CGCC. There is beginning awareness training, in depth and follow up training, and peer mentoring. A majority of the full time faculty are involved in Collaborative Learning and there is an annual conference. The Collaborative Learning initiative at CGCC is accomplishing its goals. Margaret Hogan notes that "we probably have two-thirds or more of our faculty doing Cooperative Learning."

Outcomes of this Best Practice:
The students can grasp the content with so much more depth when they can talk about it with someone else, especially with other students in their group. They discover others' learning, and this increases their own learning. Well structured Collaborative Learning activities really promote critical thinking and problem solving.

Evaluation of this Best Practice:
Classroom Research techniques are used a great deal in Collaborative Learning classrooms. These techniques give feedback not only to the teachers regarding their own teaching, but also to the students regarding their own learning. These techniques help the students with the processing stage of Collaborative Learning, and with reflection. Additional evaluation comes from the carefully structured cooperative activities and the feedback elements in the activities.

Students' Feedback / Response to this Best Practice:
Students are quick to respond to Collaborative Learning activities. When Collaborative Learning activities are carefully and thoughtfully structured, students love working together. But to ensure the success of Collaborative Learning activities, they must be carefully structured to include all the elements of a cooperative lesson, otherwise students will be frustrated by the worst elements of "group work".

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Gateway Community Partnership

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #1,# 3, and #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
the students started their experience by establishing learning 'Ground Rules', and the first 'Ground Rule' they established was *Respect.*

Innovator's / Contact's Name: Yvonne Zeka. Director of the Learning Center
Margie Aker, Reading Adjunct Faculty

College: Gateway Community College

Brief Description of this Best Practice:
This program is the result of a partnership between Gateway Community College and the Arizona Conservation Corps,in which GWCC provides interdisciplinary instruction to students who are part of a grant program. The block of classes in this program, since March, were a developmental reading course, math course, and student success course. The students had been identified as 'at-risk' and the goal of the program was to make them 'college-ready'. The faculty in this program established the courses as a learning community, with the theme of problem-solving (including chaos and fractals) as the content. The emphasis of the coursework became 'teaching and learning it while living it'.

Background / History of this Best Practice:
The grant was established to support a program for young people for work and college experience. GWCC provided a full day of instruction one day a week, in the learning community format, where the students were taking the block of courses at the same time. Yvonne explained that "the two faculty worked together to make the experience more rich, and the students called them a tag-team".

Resources Involved for Support of this Best Practice:
The financial resources for this program came from the grant. Two faculty worked together to

teach the block of classes, and found they had to be very flexible and fluid in their preparation and planning.

Extent of this Best Practice:
One group of students has gone throughthis program, which started last March. The grant is not being funded again, which is one thing faculty must consider when developing a 'best practice' which is funded by soft money.

Outcomes of this Best Practice:
Yvonne believes that "the knowledge and insights from this program will add to the other learning communities on campus". She explains that the expectations from the academic institution were grades, and from the grant the expectations were new skills and attitudes. Discussions on outcomes and drawing closure are focused on creative ways to deal with credit and non-credit issues. The primary results that Yvonne sees are that the students know the words 'summarize' and 'synthesize' and that the students have begun to develop these skills.

Yvonne feels strongly that the faculty have learned that developing an innovation within an existing system can be based on many false assumptions. She said " you can't expect the old paradigm to change just because you are developing an innovative approach for your students". Instead she discovered something very important, that you don't necessarily have to fight the old paradigm, you "can blend the two, with unexpected (positive) results".

Evaluation of this Best Practice:
The students have evaluations throughout the course, with many writing assignments. A great deal of reflection time was built into their learning Ongoing feedback was essential to the program, and the faculty are writing a final report

Students' Feedback / Response to this Best Practice:
Yvonne indicated that the students really enjoyed the learning community experience, and one student said "it was the first time in his life that he enjoyed coming to school".

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Integrated Engineering Program

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and opportunities for mutual benefit
(and # 1,#3, and #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
of the strong emphasis on active learning and collaboration. It does, however, align with all four key concepts.

Innovator's / Contact's Name: Keith Edwards, Engineering Faculty

College: Glendale Community College

Brief Description of this Best Practice:
The Integrated Engineering Program has the components of an integrated interdisciplinary curriculum, cooperative learning environment, active learning techniques, and state-of-the-art engineering work stations and instructional technology. The students sign up for a block of courses that are the foundation courses for undergraduate Engineering study. Keith states that the "block integration is the main strength of the program" He indicates that " this is a real opportunity to take several new directions in the way we present the material".

Background / History of this Best Practice:
A coalition of six universities and two community colleges received a three year NSF grant to develop this program. One of the driving factors for initiating this program is that engineers work in teams, and this skill needs to be developed The grant is allowing a unique opportunity for this to be developed.

Resources Involved for Support of this Best Practice:
The financial resources from the NSF grant have enabled partial funding of the new lab and computers. Other uses of funding include faculty time for lesson plans, and for recruiting students.

Extent of this Best Practice:
This fall will be the first semester of the block of courses at GCC and there are set entrance requirements for the students.

Outcomes of this Best Practice:
The thrust of the grant is integration, active learning and collaboration, and to encourage participation of underrepresented students. The expected outcomes are that the students will 'learn it better, and retain more'. Other studies of this approach show higher grades.

Evaluation of this Best Practice:
The program is planning regular assessment of results

Students' Feedback / Response to this Best Practice
This is a new program at GCC, but they anticipate positive feedback similar to students' comments from MCC.

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Cooperative Learning

Key Concept Met: #2. The learning process includes the larger community through the development of alliances, relationships, and opportunities for mutual benefit
(and #1)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
the key words in Cooperative Learning include active learning, collaboration, and shared responsibility.

Innovator's / Contact's Name: Tillie Byler, Child Development Faculty

College: Glendale Community College

Brief Description of this Best Practice.
Tillie's approach to teaching is to include a variety of Cooperative Learning strategies. In one class she also includes Service Learning She focuses on meeting the students' individual styles and needs through small and large group experiences. Her approach is multi-sensory. She uses a variety of concrete, hands-on experiences and activities. Tillie explains that "Cooperative Learning is the most obvious methodology that I use. I include lecture, video, and follow-up tasks to pull the learning experience together" Her goal is for the course content to be integrated and connected - a spiral of learning She makes an effort to impact the students' learning in as many ways as possible. In order to foster thinking and learning, she notes that "the students say I stir the pot a lot".

Background / History of this Best Practice.
Tillie stated that she has been developing her approach to teaching for approximately twenty five years. This is what she learned when doing her graduate work She has been refining her skills in Cooperative learning during the last few years She has found workshops and conferences related to Cooperative Learning 'trigger new ways to think' about teaching and learning.

Resources Involved for Support of this Best Practice.
Tillie considers an important resource for someone using Cooperative Learning teaching strategies is to have 'someone to dialogue with' She has found a supportive colleague/ mentor, is helpful for further development and support

Extent of this Best Practice.
Tillie uses Cooperative Learning strategies in all her classes She stated, "it is such a part of me that I couldn't not do it". She has found the best effective way to incorporate Cooperative Learning with students is 'to approach it slowly' in the class She introduces the students to it, then increases their involvement and responsibilities

Outcomes of this Best Practice:
Tillie believes that there is greater retention of students because of their involvement, increased accountability and responsibilities. . The students make a commitment to their small group and they seem much more eager to participate in activities. The students' understanding and retention of information seems to be greater. The Cooperative Learning experiences call for additional writing and reflection. This contributes to the development of critical thinking skills.

Evaluation of this Best Practice:
Classroom Research techniques (including the "One Minute Paper") work very well for evaluating students' learning in a Cooperative Learning Classroom. Students can also give feedback on the teaching and learning. Tillie unscientifically compared two classes one semester. One class was taught more traditionally, and the other incorporated the Cooperative Learning methodology. There was a definite contrast in the way the students studied for exams in the two classes. The class that used a high degree of Cooperative Learning activities tended to test a full letter grade higher.

Students' Feedback / Response to this Best Practice
The students' initial feedback indicates some level of discomfort, because Cooperative Learning asks them to be more active, and to think through issues and solve problems. However, later the responses are all very positive.

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Multiple Teaching Strategies

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #1)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
of the high level of active teaching and learning.

Innovator's / Contact's Name: Gary Calderone. Geology Faculty

College: Glendale Community College

Brief Description of this Best Practice.
Gary points out that "teaching Geology basically communicates how the earth works to students who have no clue". Many of these students are apprehensive; this may be their first science class. So, Gary tells them they are scientists and they do use science all of the time. He uses multiple teaching strategies with these students , including having the students work together, collaborative learning techniques, and asking the students to figure things out for themselves. Gary indicates that there are several "good multimedia presentations available in Geology". He uses these as a lecture 'substitute', and does in fact, 'lecture' off the computer. The computer program quizzes the class, and the students tell him what answers to pick. Also, all Geology classes come with labs. The computer labs teach the students how to 'do' Geology with realistic problem solving. Gary uses clips from videos and selections from songs that relate to the lecture topic and makes connection for and with the students. He prods the students for questions and answers. He points out that a CD program does ask questions, but also gives options of 'giving up'. So, he goes through every CD, copies the questions and supplements them with questions of his own.

Background / History of this Best Practice
Gary started teaching at GCC one year ago, and at that time went to a workshop on Collaborative Learning. He worked on becoming familiar with educational software on computers, and measuring students' response to this. Gary saw large lecture halls as one of the main issues for multiple teaching strategies and one of the biggest challenges to implementing cooperative education.

Resources Involved for Support of this Best Practice:
Computer resources need to be available, in multiple platforms. It is helpful to have a data show that will take both Mac and IBM, and will project over a fairly large area. The teacher will need more AV equipment in the classroom, including larger TV monitors, laser discs players, and tape decks. Training in various teaching methodologies, including collaborative learning is very helpful. And all of this takes a great deal of time.

Extent of this Best Practice:
Gary believes that he is "doing less than 50% of what could be possible." He has many ideas and carries around a tape recorder to catch his thoughts. One idea relates to the fact that it is often hard to take students out into the field. He would like to make video field trips and interactive field trips, so that students could see what they would see if they were out on a field trip.

Outcomes of this Best Practice:
Gary indicates that h is students are learning better. "We used to lecture on how to read a map, and it took an hour and a half. It was difficult for the students. Now, because of the CDs, the students can do this at their own pace, which is often faster, and they are learning better." He believes that the games, etc help a lot, because these strategies help the students to know the philosophy of how science works. And, Gary has found that it is more fun to teach this way.

Evaluation of this Best Practice:
Gary indicates that he used to assess primarily rote memory of facts. Now he uses a more practically oriented way of assessing. He asks himself questions regarding the instrument of assessment - "is this going to tell me what I want?"

Students' Feedback / Response to this Best Practice:
The students really like the use of multiple teaching strategies, and state that they usually get bored when there is the same stuff all of the time. Gary believes that "when they don't know what to expect, they have higher interest and expectations."

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Linking Community Colleges to Public Schools

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #3)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
so much of what this involves is learning from each other Elementary students will learn from each other and their teachers are learning from them and from their fellow teachers. Science is a collaborative enterprise.

Innovator's / Contact's Name: Dr. Karen Conzelman, Biology Faculty

College: Glendale Community College

Brief Description of this Best Practice:
Linking Community Colleges to Public Schools is a program of collaboration and training, in Science, for present and future elementary school teachers Traditionally, elementary teachers have been reluctant to teach Science. This program is trying to increase their confidence and skill in teaching Science, to make this a more thoughtful pursuit. Karen indicates that "the approach is to tap into what children do naturally , observe, question, and try to figure out how the natural world works, and cultivate that into a more formal structure. Elementary teachers don't usually have a lab or supplies, so we focus on what is easy to do, without much money."
Components of this program include workshops to in-service teachers, and Science classes to Elementary majors. The focus is on how to do Science, to give them a model to look back on even if it is an unconscious reflection.. "This is important", Karen notes, "because our whole view of how to teach Science has changed It is now based on attempting to give hands-on experience before developing concept."

Background / History of this Best Practice
Karen has been involved in discussions in trying to improve science education for several years. This program started with a precursor to the Urban Systemic Initiative Grant, (USI), a district grant, which was funded to improve K-12 science education in metro Phoenix. Karen indicates that " a meeting at Cal Tech, several years ago sponsored by the National Science Resource Council, got me thinking in a different way regarding teaching Science "

Resources Involved for Support of this Best Practice:
The USI grant money provided financial resources for development time, and for instructors' time in a team taught course. The participants get paid a stipend Karen believes that "incentives are critical for teachers. We are asking them to step out of their comfort zone; this takes time and risk."

Extent of this Best Practice:
Next semester, Karen will be teaching a Science Methods Class at ASU West. She believes that there is a demand for this program to expand GCC's offering os Science courses for Elementary Education majors. "There is a whole nationwide movement to improve the quality of Science Education. We are looking at more levels of training " GCC is now working with the City of Glendale through this program. As a part of their Biology course, Elementary Education majors will design and plant an edible desert adapted garden at the Glendale Public Library. In a hand-on fashion these students will learn a lot about environmental Biology.

Outcomes of this Best Practice:
The teachers, as students, are increasing their interest in Science and their willingness to try it in the classroom. Karen indicates that "if teachers try one Science lesson that they wouldn't have tried then we have had a positive impact It will take awhile to see the difference in college students, but we hope to help create a wave of students reaching colleges, universities and the working force who love are good critical thinkers and problem solvers, who love Science, or at least do not have an aversion to it."

Evaluation of this Best Practice:
The USI has assessment built into it. Assessment includes surveys, and peer teachers who will do follow up contacts as mentors. The work with the in-service teachers has as a goal to increase skills in teaching Science. The assessment includes having them design and modify lesson plans..

Students' Feedback / Response to this Best Practice
The response to this program has been overwhelmingly positive It is a gradual process; some teachers have initial discomfort with the strategy, but they soon increase their skills. Karen notes that she receives phone calls after a teacher does a classroom lesson with the students, reporting that "the students love it". She also runs into Elementary Education majors who have decided, after taking this Biology course, to make science their teaching specialization.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Inquiry Instruction in General Biology

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #1)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
the students have become much more active learners of Biology, and have increased their responsibility for their own learning.

Innovator's / Contact's Name: Brad Kincaid, Biology Faculty
Peg Johnson, Biology Faculty

College: Mesa Community College

Brief Description of this Best Practice:
Based on the learning cycle method of instruction, this methodology helps students learn science by doing science. It is an inquiry approach that focuses on science process skills as much as the content of the discipline. A major focus of both lab and lecture activities is on understanding the process of science. Learning cycle instruction comprises three phases: 1) exploration of a new biological phenomenon preferably in a hands-on exercise, 2) term introductic n via discussion to develop a biological concept, and 3) the application of the concept in a new context to reinforce learning and promote integration of reasoning skills into their critical thinking repertoire. In the exploration phase, student inquiry is central For example, many labs begin with a question posed by the instructor and for which students are asked to generate alternative hypotheses. Students then design experiments, make appropriate predictions, conduct the experiment, and draw conclusions to support or reject each of their hypotheses. Lecture-based inquiry often involves presentation of classical experiments in biology with class discussion focusing on hypotheses, experiments, and conclusions.

Background / History of this Best Practice:
Numerous studies have documented the lack of scientific literacy in Americans as well as misconceptions regarding natural phenomena. Many have suggested that the way to improve science education is to let students "do" science, rather than just talk about the results scientists

have discovered. Students can thus learn the strengths and limitations of the scientific method and are likely to improve their reasoning skills, which ultimately will lead to better understanding of abstract scientific concepts. Moreover, students are more likely to let go of misconceptions in favor of alternate hypotheses supported by their own data

Resources Involved for Support of this Best Practice:
Initial training is needed to use this methodology. A faculty member may use traditional science equipment, but he would use it differently. MCC faculty are developing and evaluating computer software to enhance the application phase of learning cycle instruction in biology, but they have demonstrated that the approach can be effective without computers..

Extent of this Best Practice:
This methodology has been widely employed in the sciences for a number of years. MCC Life Science faculty are implementing this methodology in most sections of the BIO 100 course (Biology concepts for non-majors) and incorporating them in other courses as well.

Outcomes of this Best Practice:
Students in the learning cycle classes have demonstrated significantly higher achievement on a standardized test, greater development of reasoning ability, and better attitudes toward science than a control group in more traditional expository classes

Evaluation of this Best Practice:
Students were pre- and post-tested on biology achievement, attitudes, and reasoning ability. In addition, qualitative data was collected via student journals that reflected on their biology experiences.

Students' Feedback / Response to this Best Practice:
Students indicate a high level of satisfaction with this method. Although they perceive it as a rigorous course, they believe they have gained useful knowledge and / or skills in the process. Most students liked the substantial amount of group work in this method.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Mesa Independent Learning Options (MILO)

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.

Analysis:
This Best Practice meets or aligns with the stated key concept because:
through MILO " we learn from each student and from each other". "The students shows up prepared. This enables us to go into a very different relationship with the student than we do normally."

Innovator's / Contact's Name: Richard Felnagle, English Faculty

College: Mesa Community College

Brief Description of this Best Practice:
MILO is Mesa Community College's first distance learning program. It is an attempt to provide alternative delivery to adult learners who have significant reasons why the traditional classroom is not possible or attractive for them. MILO provides the resources for adults to have more control and freedom regarding their learning. MILO includes a separate way of registering, loading, publicizing, and advising these classes, so that faculty can address the fundamental questions of what we want our students to be doing. This program is built on the model of the private tutor with scheduled weekly contacts.

Background / History of this Best Practice:
MILO evolved out of a project that Richard was working on to develop ENG 101 and 102 in an Open Entry, Open Exit mode. Two years of background work on MILO included thinking, planning, and developing a pilot in Spring Semester, 1995

Resources Involved for Support of this Best Practice:
This program has a steering team that meets weekly Discussions and training help the faculty with a 're-organization of their thinking' MILO is not at the moment a high-tech program, although the future will include courses over the Internet

Extent of this Best Practice:
MILO will launch twenty classes, across the disciplines, in the fall semester, 1995, with the goal making an AA degree possible through this program within two years A major project for fall, 1995, includes issuing an alternati e catalogue that follows the philosophy of MILO to get students and faculty out of the ser iester system

Outcomes of this Best Practice:
"MILO is not just a program; it is a process. This is working one on one with students. It is real independent learning, uniquely tailored to each individual student's needs." Results seen so far include written papers of higher quality that the papers in the traditional classroom. This program is writing intensive, based on the philosophy "the more they write, the more they think, the more they think, the more they learn".

Evaluation of this Best Practice:
There is a pre and post course survey that asks the students to evaluate attitudes about themselves as learners as well as evaluate the course. There are no finals for the course. The individual weekly meetings are an important part of the evaluation. Anecdotal comments from the faculty indicate that they are thrilled with this program.

Students' Feedback / Response to this Best Practice:
Based on the evaluations they write, the students are very positive about this program. The program seems to work very well for students unless they are have significant interruptions in their lives.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Kaleidoscope

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility and mutual respect.

Analysis:
This Best Practice meets or aligns with the stated key concept because:
the participants and their colleagues are actively learning and sharing their experiences.

Innovator's / Contact's Name: Claire Keyworth, Nursing Faculty, Kaleidoscope Program Chair

College: Mesa Community College

Brief Description of this Best Practice:
Kaleidoscope is a program designed to foster and promote an institutional environment that enhances Teaching and Learning. In this program, faculty complete a semester project on reassigned time. They can experiment with different teaching styles and explore and share teaching pedagogy.

Background/History of this Best Practice.
Five years ago, a subcommittee on teaching excellence had the original idea that became Kaleidoscope. Strong administrative support enabled the idea to become a reality, as faculty are given reassigned time to participate in this program.

Resources Involved for Support of this Best Practice:
Financial resources are need for faculty reassigned time. And, there must be faculty who *want* to do this. Because the faculty must apply, and write a project, to be part of this program, a committee exists that has formulated criteria for selection consideration.

Extent of this Best Practice:
This program is functioning at its fullest extent. Participation is limited to 5 - 6 faculty a semester, from across the disciplines. These new participants meet with the previous 5 - 6 participants. The program is limited to this size because of the belief that if the group gets too large for its weekly sharing, you loose something in the discussions and exchange of ideas.

Outcomes of this Best Practice:
The intention of the program was to support mentoring of new faculty, enhance a sense of professionalism among the faculty, and provide feedback and appraisal sessions regard the projects. The results are primarily based on qualitative and anecdotal feedback. Claire indicates that "we are seeing more collaboration, and we feel more strongly about a sense of faculty unity. This is really an 'on-campus mini-sabbatical' ." This program has strengthened the informal communication network, built collegiality, and stimulated intellectual socialization. The faculty are very positive about this program.

Evaluation of this Best Practice:
The committee is currently working with and refining the evaluation tool. There is also a Kaleidoscope Showcase at the end of each semester that is open to all faculty and administrators, and to students if they choose.

Students' Feedback / Response to this Best Practice.
This program does not directly receive feedback from students.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: CA Learning (Computer Assisted Learning)

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
of the emphasis on active learning, collaboration, and increasing the students' role in their own learning.

Innovator's / Contact's Name: Rick Effland, Anthropology Faculty

College: Mesa Community College

Brief Description of this Best Practice:
This methodology focuses on computer and multimedia delivery of information for Anthropology instruction at MCC. This has led to a total reorientation of teaching style or pedagogy. Rick states that "the emphasis in this teaching approach is definitely on what is happening to the learning curve. This is a very student-centered approach to what happens in instruction". The computer sets up new contexts and the competencies take the students into critical thinking, what Rick calls 'hot memory'. The first phase of instruction has informational applications from the computer - small bits of text to go with the pictures. The second phase is problem solving. The third phase is a simulated experience. These phases enable the students to take the information and apply it. This way they learn to use information effectively, to get better answers.

Background / History of this Best Practice:
A series of partnerships were established in order to create computer and multimedia materials for use in Anthropology instruction. This collaboration included the Center for Teaching and Learning at MCC and the University of California at Santa Barbara. The first applications were used in the fall of 1991. Complete revisions of courses followed as simulations and hypercard applications were developed and incorporated.

Resources Involved for Support of this Best Practice:
Rick indicates that this approach "is a dynamic kind of thing at this point". The primary resource is the necessary availability of computers Students who have modem access can work at home.

MCC faculty are using a combination of developed and canned materials and software. They are actively sharing materials with UCSB.

Extent of this Best Practice:
Thirty programs are available and in use currently. There is active program development, and four of MCC's programs have been developed by students. All of this work and collaboration has created an active learning environment, which is constantly evolving.

Outcomes of this Best Practice:
The students understand what technology is doing for them and how it translates into a learning tool. The students go through the process of thinking, and develop more critical thinking skills. They learn and then apply their learning, and are a lot more organized in the process. The faculty are seeing majors going on to the university who are better prepared.

Evaluation of this Best Practice:
A questionnaire is given at midsemester that addresses teaching and learning so that the faculty can adjust their work. Rick indicates that "we want to assess what students feel is good or wrong with this approach". He feels that 25% of the students have little sense of what this is all about, but they keep working at it, anyway, and that returning women are thriving on this. Students write reflections on the course and on their learning.

Students' Feedback / Response to this Best Practice:
From the very beginning, students said that this was better learning: "I've become more than just a student; I've become a learner and I've become creative." Comments from students regarding key instruction elements include: DIRECTION - "I believe that one of the two most beneficial factors has been your emphasis on structuring the material so that we actually have to learn and understand the information (as opposed to many classes that require only an ability to memorize); REINFORCEMENT-"With all the visual aids, lectures, readings, and computer work, it is doubtful that I could forget the information, even if I wanted to"; COLLABORATION - "Having worked in a small group during most of the semester, we learned how to share ideas and explain them to where they made sense"; and CHALLENGE-It has been stressful, yet interesting and I find myself wishing I was out there digging." "On a personal level, I saw this exercise become a challenge and I couldn't let go until it was solved " Rick recalled a student who said that "she didn't know how much she had appreciated the freedom to think, until this class gave her the opportunity".

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Integrated Engineering Program (IEP)

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #1)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
this is increasing the focus of the student as an active learner, collaboration, and shared responsibility.

Innovator's / Contact's Name: Mike Sims, Engineering Faculty

College: Mesa Community College

Brief Description of this Best Practice:
There are three fundamental thrusts to this program. The primary thrust is to have a learning community which strongly encourages the use of cooperative learning. The teachers are in a coaching role with the students, and the students often act as peer tutors. The students are very active learners, and there is much use of student teams. The second thrust is an integration of curriculum across curriculum boundaries; instead of compartmentalized boundaries. Now ties are made by the students. They take Calculus, Physics, and Engineering as an integrated block. The teachers put considerable work into the curriculum writing to make sure the material reinforces the concepts from each class. With the students in all the same classes, the topics are not taught, or learned, in isolation. The third thrust is the use of technology. Computers are used in more ways than for productivity. They become analytical tools used for problem solving.

Background / History of this Best Practice:
The National Science Foundation is funding a Foundation Coalition of six universities and one community college district. The purpose of this grant is to reassert the role of Engineering faculty as educators. This October, Mesa Community College will be entering its third year of participation in this program. Last year was the first year that MCC offered the block of classes to students.

Resources Involved for Support of this Best Practice:
One important resource that is needed is use of Cooperative Learning. Training would be

necessary for teachers who are not familiar with these strategies. It is also important to assess the sophistication of use of technology by the faculty. Technology is a major thrust in this program, and the related software is crucial. Other resources would include money to support faculty time for curriculum work, recruitment, etc.

Extent of this Best Practice:
The NSF grant is a five year program, with two goals. One is to make curriculum development in this kind of program available across the board for all Engineering courses. The second goal is to expand this program, particularly emphasizing the role of communication in Engineering. Mike indicated the students are one-half way into their full two year program of study.

Outcomes of this Best Practice:
One main focus for outcomes is better retention of students. Changes have been made in the program for this year, because the block last year became too heavy a load for the students. The coursework may have been seen as too heavy a load if the students didn't have or meet all of the prerequisites. However, Mike indicates that they are seeing outcomes already that include better problem solving, and the use of technology applications to do problem solving. The students also increase their ability to work in teams.

Evaluation of this Best Practice:
The courses in this program have assignments and tests. Alternative assessment strategies last year included portfolio as a pilot project The California Critical Thinking Skills tests are given as a pre and post test. The students keep a portfolio and journal. The Force Concept Inventory is also used.

Students' Feedback / Response to this Best Practice:
The teachers encourage continuous improvement feedback from the students during the semester through the use of "Plus/Deltas" -what is going well, what could be improved. The students are responding favorably to the major thrusts of the program In particular, the students really appreciate the faculty working together

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Laptop Computer Pilot Project

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #1, #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
this project shifts the responsibility to the students' shoulders.

Innovator's / Contact's Name: Allen Bradshaw, English faculty

College: Mesa Community College

Brief Description of this Best Practice:
Allen indicates that "basically we are trying to develop an entire packaged curriculum for a course on the laptop. We are in a pilot program to attempt to develop a delivery system for teachers and students that is generic and easy to use, and can be hyperlinked, as on World Wide Web, to a lecture, examples, and assignments. Allen is working on developing the delivery system, writing all of the directions, and writing the English 102 curriculum There will be information on how to hand in assignments, which may be a pre-programmed fax to fax machine on campus. He wants to make this as transparent and as easy to use as possible. His goal is to develop a system to have an entire curriculum on a laptop. This will include the lessons, the connections, the lectures, the examples, and full electronic access to the library and the Internet. The students will have a choice of assignments in this curriculum. These students will be able to take the laptop computers home, either free for use in the course or on a lease purchase basis

Background / History of this Best Practice.
Allen is in charge of computer English at MCC, and he developed the computer based/ modem based English course three years ago. He has seen the incompatibility of the hardware causing difficulties in doing the course work. Six months ago the college President discussed the upcoming changes in education, and this encouraged Allen to pursue laptop projects. Allen wrote a laptop project, and started work on it during the summer of 1995.

Resources Involved for Support of this Best Practice:
Allen indicates that a great deal of time is needed to develop the delivery system and the

curriculum. Financial resources are needed to support reassigned time. Strong administrative support is valuable for developing both the ideas and the nuts and bolts.

Extent of this Best Practice:
Allen indicates "there are lots of possibilities for the future of this project. We're very 'young' into this." The curriculum is three-quarters done and is very "demonstratable". More discussions are needed regarding what course should be offered this way, how to deal with the issue of reassigned time, and what help should they get. Allen believes they are"redesigning curriculum for the 21st century." This will be another educational alternative. The laptop is the delivery system, and later, for students with sophisticated computer equipment at home, the entire course could be on CD. Allen also believes that "if we don't change some of our curriculum, and start to deliver complete packaged programs, we're going to be without these students."

Outcomes of this Best Practice:
The expectations for the pilot project should be a higher proficiency of learning. The students should know more about English because of the higher involvement. The convenience factor of laptop computers should contribute to this outcome. The goal is to see a better educated student, a more '21st century' student, who has also learned computer skills, Internet, Bulletin Board, and other desirable workplace skills.

Evaluation of this Best Practice:
Allen knows that this will have to be assessed. The questions they are now asking include: could this have been done in another way? will the learning be better? is this financially feasible? Early in September a committee will looking into the broader aspects of this project. This is all part of the project, that they are on a 'fast learning curve'

Students' Feedback / Response to this Best Practice:
Several students have been shown the pilot materials, and are so thrilled that they want to get into the project. Allen indicates that "they think it is the most wonderful thing they have ever seen. One student exclaimed that 'to hand me something like this and enable me to get an education would be like a gift from heaven'." This fall semester, Allen will demonstrate the system and get as much feedback as he can.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
this innovation is very effective in meeting the characteristics of active learner and teacher through collaboration.
Best Practice Name, Title, or Subject: Virtual Reality

Innovator's / Contact's Name: Greg Swan, Business Faculty

College: Mesa Community College

Brief Description of this Best Practice:
Greg's work focuses on virtual reality software to create learning environments in which the groups of learners can meet, interact with each other and with the environment, and retrieve networked information.

Background / History of this Best Practice:
This innovation started when a team (Billie Hughes and Jim Walters from Phoenix College, and Greg, from Mesa Community College) began a quest to implement constructivist pedagogies in higher education. At that time, Greg discovered that MIT had constructed a virtual reality called MicroMUSE to create an informal science education environment for k-12 students. After much study, the team concluded it would likely be easier to implement constructivist pedagogies in virtual reality then in physical reality, because the organizational and physical building changes required to support constructivist pedagogies were intimidating. Working with MicroMUSE staff, we ported the virtual reality software to a workstation at Phoenix College and constructed the MariMUSE virtual reality. Subsequently, when the team broke up, Greg continued along this thread by developing the EON virtual reality at Mesa. Currently his work in this area is on hold as he prepares for a sabbatical to study virtual reality-based schools as part of his doctoral dissertation in Spring 1996.

Resources Involved for Support of this Best Practice.
Some background is required before answering this question. Greg indicates that "as my work with virtual reality evolved, it became clear that the most significant aspect of the virtual reality was the communities it facilitated. People were able to work cooperatively in their learning and formed what I think can rightfully be called 'learning communities'. These communities were

extremely fragile, requiring mush intervention and mediation. They were extremely vulnerable to people being able to 'connect' to them. If people found their connections cut off for more than a few weeks, they often become discouraged and skeptical. That is, they were getting very important 'things' out of their interaction with others in a learning environment. When cut off, they found themselves frustrated and often decided that being cut off was too painful. They would stop logging in or would look elsewhere for communities." Greg wants to point out that the important thing is not just that you have the following list of resources, but that these resources be reliable(as close to 100% as possible). Necessary resources would include 14 4 modem banks for local students to call into, at least and ISDN bandwidth internet connection, and a UNIX server with at least 64mb of memory and 1gb of hard drive

Extent of this Best Practice:

Mesa has a joint grant application in with FIPSE to implement an interdisciplinary "first year of college" program. Partners include Marist and Northern Arizona University. Students enrolling in the program would collaboratively construct a virtual reality learning environment, including a working society with and economic system, body of literature, political system, etc. Students would study various economic systems, types of literature, political systems and so forth pursuant to developing the virtual reality. Various efforts are also underway (Athena University, for instance) to use virtual reality software as the basis for constructing accredited universities that exist solely in virtual space. Although in its infancy, Greg predicts "widespread use of this innovation when a reliable gui interface becomes available. Right now, the virtual reality software is text based and students must enter commands, rather than point and click on icons.

Outcomes of this Best Practice:

On outcome will be the elimination of space and time as consideration for locating and scheduling classes. There will be an increasingly global focus as learning communities become composed of learners from all over the world. There will be increased understanding of the pluses and minuses of the formation of community in learning. We will see the convergence of information resources (on-line libraries) with social space (on-line student unions, discussion groups and so forth). There will be a shift in the focus from instructional design to design of learning environments, and a move from knowledge discipline departments to interdisciplinary, student-service teams. There will also be a shift in the focus of educational software from building teaching systems to building learning tools. And, perhaps, we will also see the separation of the credentialing function of colleges from the teaching and learning function

Evaluation of this Best Practice:

At the student level, assessment is clearly moving to portfolio-based methods. Students also have significant input to developing criteria for their own evaluations. At the program level, qualitative techniques including focus group interviews, participant observation and interviews seem the most fruitful for understanding what is essentially a group or cultural phenomenon.

Students' Feedback / Response to this Best Practice

Students have been positive. However, the approach fails when the technology becomes unreliable or an insufficient number of students are involved.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Counseling-Adult Re-entry Program

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #1)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
the students help one another; they are really teaching each other.

Innovator's / Contact's Name: Donna Mosher, Counselor

College: Paradise Valley Community College

Brief Description of this Best Practice:
Within the Counseling department at Paradise Valley Community College, the Adult Re-entry program is a major focus, supporting the returning adult students, with several components The Seminar Series are bi-monthly afternoon and evening sessions that focus on academic challenges and easing transitions. This enables the students to get peer support and resources, and encourages them to network. Another component is the Adult Re-entry club AWARE (Adults Who Are Returning to Education). There is a Mentoring component that is also working well; re-entry who have become successful are mentors to new students. Counseling classes such as 'Women in Transition" are another component, attracting women who then join AWARE, and attend the seminars.

Background / History of this Best Practice:
Donna has been at PVCC for six years, and developing these components has been one of her responsibilities. She indicates that the program has grown quite a bit over the years, because research has shown that re-entry adults need peer support and need campus resources to improve retention.

Resources Involved for Support of this Best Practice:
Donna has found that administrative support is very valuable for this program. It is also necessary to have financial resources because of the social aspects of the components of the program, which she believes "really change, and add to, the flavor of this"

Extent of this Best Practice:
PVCC piloted the Mentoring component this past Summer, and is working to bring in more people to be mentors. They are expanding to the honors program (PTK), also. Donna believes that "we could go even further, including working with younger students, at risk students, and those straight from high school.

Outcomes of this Best Practice:
This program improves retention of the students who now have become 'connected' with the system. They are making successful transitions from the work of work into education. Donna has found that the adults feel "an upsurge of self-confidence and self-esteem. Their leadership skills get developed, as well as their communication skills. These students are taking responsibility for their learning. There are very positive effects."

Evaluation of this Best Practice:
Current evaluation is an evaluation form given out at the seminars. They are planning an evaluation component of the mentor program

Students' Feedback / Response to this Best Practice:
The students are very positive about this program One student said "there's so much support on this campus; I can't believe it". Donna indicated that this program make a significant change in their lives. They become different and better people

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Integrated Reading and Writing

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #1, #3, #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
this most describes the way the students are really active in the integrated classes.

Innovator's / Contact's Name: Sally Rings, Reading, English Faculty

College: Paradise Valley Community College

Brief Description of this Best Practice:
The Integrated Reading and Writing Program is a block courses in which the curriculum is totally integrated. The students take an English class and a Reading class as a block, and Sally, as their teacher, focuses on having the students see the connections in the content and in the skills. Sally points out that "the world doesn't operate in isolated segments, so integrating these skills helps them become more real to the students"

Background / History of this Best Practice:
Sally indicates that she "has been playing with the concept of integrating reading and writing courses for over ten years. Reading and writing go well together; that's how it was when I taught junior high." There is some difficulty in getting the students co-enrolled, but it can work. A block of integrated courses started one year ago at PVCC and included ENG 101 and RDG 101.

Resources Involved for Support of this Best Practice:
Sally's work is part of the PEP grant that several colleges in the district are involved in. She indicated the importance of strong administrative support from the Dean of Instruction and the Division Chair. This is important because of the need to work with Admissions and Records on co-enrollment. Sally also points out that this integration takes "an inordinate amount of time for lesson planning."

Extent of this Best Practice:
A block of developmental courses, including English, Reading, Study Skills and Math, was

scheduled for this fall. Sally believes that this kind of block has great potential because all of these courses can support one another; the common denominator among them is problem solving. Sally states that "there are lots of possibilities for linking and integrating courses. We want to see our faculty really look at the connections among courses, and see this concept grow to be a significant component in the curriculum. This will make the courses, and the content, more real, and the papers more academic." Two blocks of classes are planned for Spring 1996.

Outcomes of this Best Practice:

A major outcome is to see the students forming a community supporting one another in their learning. Sally has found that the students show "more commitment to the class. My 101 block this semester has only met three times, and already they are bonding." The length of time in the block encourages more cooperation, and there is more opportunity to develop projects.

Evaluation of this Best Practice:

The faculty who are working on the PEP grant are addressing evaluation as a major goal this year. They have spent time on a review of the literature, and they have collected qualitative data, including a student survey.

Students' Feedback / Response to this Best Practice.

The students are very positive. A global response is that they like the integrated course better than their 'stand alone' classes. Typically, only very few wish there wasn't so much group work.

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Pueblo (formerly MariMUSE)

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #3, #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
"we use a lot of peer tutoring and peer teaching. And a student can be a mentor to a teacher!"

Innovator's / Contact's Name: Jim Walters, Academic Computing Faculty
Billie Hughes, Academic Computing Faculty

College: Phoenix College

Brief Description of this Best Practice:
Pueblo is a text-based virtual learning community. This community is a partnership between Longview Elementary school and Phoenix College. This project uses the Internet to connect Longview, Phoenix College, and others on the Internet into the virtual learning community. This virtual community exists in a MUD, or Multi-User Dimension. The MUD connects multiple users in a virtual world that enables users to communicate synchronously as well as build objects and locations using the power of the written word. The children, as well as the teachers have e-mail accounts and can access Gopher and the World Wide Web for information. All of these activities involve the students in reading and writing activities in a highly motivating, interactive world.

Background / History of this Best Practice:
Jim indicated that Phoenix College started working with elementary school children, in Longview Elementary School, in the summer of 1993. They were experimenting with alternative spaces for learning, looking for non classroom kinds of spaces and new paradigms. Jim stated that "in classrooms students fall into certain kinds of behaviors based on previous years of experiences. In virtual space worlds, they have no advance clues as to the behaviors." This gives the students the freedom to behave quite differently. Initial work with college students indicated that virtual space had enormous draws for people. This space was primarily basic literacy content, and this led to the idea that it would be ideal space for elementary students.

Resources Involved for Support of this Best Practice

Financial resources are needed to access computers and the Internet. It is necessary to have control of a server in the Internet to build a virtual space, and to have ports for students to gain access. There is a considerable amount of learning for teachers in this program. Initially there was no grant money to support this program. Phoenix College gave strong support, and the district office joined in. This support continues.

Extent of this Best Practice:

This program has expanded technology at the school. Jim indicates that "we are at the front end of some really exciting learning that will have a major impact on education over the next decade or two." They are partnered with Xerox Park in a major grant. The granting agency had deemed that everyone will work together and collaborate. There are amazingly talented folks from around the country who are working to develop good strong educational technology that will serve in schools. What is developed will become technology for the Department of Defense schools. The emphasis of this continued work will be on the social aspects of a muse, on incorporating the World Wide Web, and on modeling languages. Jim points out that "our major contribution is we're the only ones involved in this who are using this in an actual school setting."

Outcomes of this Best Practice.

A major outcome to date is that the number of students in the program keep increasing. It is very positive at this point to see the attitude and behavior of the students. The intent is to build literacy skills, and to keep students actively involved so that they will attend school more than their peers, and have fewer discipline problems. What is really exciting is the unexpected linkages that really enhance learning. They are discovering what being connected is all about or can lead to.

Evaluation of this Best Practice:

Evaluation to date is informal, including anecdotes and observations. Plans include performance standardized tests on the group

Students' Feedback / Response to this Best Practice

The students love this program. They cannot wait to get access, and often every available computer is in use. These students give up playing to be on-line, and are enthusiastic about this unfamiliar environment where they are doing reading and writing

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Creative Writing Certificate Program

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #1, #3)

Analysis:
This Best Practice meets or aligns with the stated key concept because.
the key words in the program are mutual respect and collaboration

Innovator's / Contact's Name: Dr. Lisa Miller. English Faculty

College: Phoenix College

Brief Description of this Best Practice:
The Creative Writing Certificate Program is a nontraditional program in Creative Writing that caters to students who would not or could not pursue the customary path for studies, that of a Master of Fine Arts degree. This certificate program at Phoenix College is geared to working adults, minority students, and senior adults. These students do not pursue the traditional kind of degree; yet many of them are very good writers who would find themselves excluded from a community of writers without this kind of program. Phoenix College is the only community college in the country with a Creative Writing certificate program. This includes a mentoring component, author readings and workshops and workshops on the Internet. Phoenix College is a member of the Association of Writing Programs and is the first two year school represented in the Director's Circle.

Background / History of this Best Practice
Lisa indicates that the idea for this focus occurred to her several years ago when she was teaching an African-American Literature class. She saw several really good writers in this class and talked with these students about furthering their work The certificate was 'born out of a sabbatical project'. Lisa decided that "there are people out there who want to be part of a writing community and get professional feedback, but who don't have time for an MFA degree". As the Creative Writing Certificate Program has developed, it has attracted all kinds of people, from students to professionals.

Resources Involved for Support of this Best Practice

Lisa indicates that strong administrative support from the college and the district is crucial and very valuable for this program. Financial resources are used to bring in writers, publishers, and editors for readings and workshops. A technology grant provides support for the Internet component.

Extent of this Best Practice:

Last semester was the first time this program was offered, with 150 students in credit and non-credit classes. There are thirteen certificate students at this point. A large part of the program is community service, because the program offers free workshops and volunteer work in adult day care centers and public schools. Next semester, the program will add a focus on children's writing. There has been increased collaboration in the community, and this program has shared resources, writers, and readings with ASU and ASU West, and the Writers Voice Project.

Outcomes of this Best Practice:

The goal of this program is to inspire good writing Lisa indicates that the timing has been important because "the literary arts are enjoying a Renaissance", and people are more interested in becoming part of a writing community. Many students are winning writing contests, and one certificate students has had a story published "We want to see the students go out and publish. We want to see writers whose voices have been squelched go out and get published." The program will emphasize helping these students make connections. Lisa indicates that "we think we can change American letters. We are not interested in producing just cookie-cutter writers. We want to help people who have a really valuable voice and who deserve to be heard. "

Evaluation of this Best Practice:

Lisa meets with all of the certificate students, does the course evaluations, and visits the classes. Additional qualitative assessment is received through feedback from the students.

Students' Feedback / Respons .o this Best Practice

Lisa indicates that the response just couldn't be better One student has said that "the value I have gotten from working with a mentor was worth millions to me" Students were so interested in these classes last Spring that only one class was cancelled, even though these classes were not in the schedule.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Collaborative Learning Classroom

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect
(and #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
of the high level of active learning and collaboration found in the student teams.

Innovator's / Contact's Name: Renee Roecklein, Psychology Faculty

College: Phoenix College

Brief Description of this Best Practice:
Although Renee teaches three very different classes (introduction, statistics, and research), her teaching approach focuses on teamwork in addition to lecture. This way her students become more involved in the learning experience. She puts her students in teams from 'day one', and tries not to lecture more than ten minutes at a time. She starts her classes with a collaborative learning syllabus activity. In all of her classes, the students face each other, not the teacher, and as a team describe and work through problems. Renee has found having the students work out problems on the board to be much more effective than the teacher doing this, because the students are *doing* the learning at the same time. She emphasizes that the Collaborative Learning activities have to be structured, with individual accountability and positive interdependence.

Background / History of this Best Practice:
Renee has been familiar with student teams for many years because her husband, a faculty member at MCC, has taught this way for a long time. About seven years ago, Renee began using the team method. She found out about Collaborative Learning strategies about a year ago, in a workshop. This gave her the different structures and activities, and she has incorporated many in the semesters since then.

Resources Involved for Support of this Best Practice
Training opportunities, workshop experience, and books are very valuable for faculty who want to explore Collaborative Learning. Renee points out that you have to 'learn it, explore it, and then do it".

Extent of this Best Practice:
Renee wants to increase the art of Collaborative Learning with her students. This will mean continuing to increase the team work and decrease the lecture. She is constantly in the process of using this approach, and can be very flexible and impromptu. When she is in the Collaborative Learning mode, she can self-monitor, and quickly thinks of another strategy if necessary.

Outcomes of this Best Practice:
The students are doing better in their learning. They are getting better grades than if they weren't participating in teamwork and collaborative activities. Renee points out that the research in Collaborative Learning shows increased learning.

Evaluation of this Best Practice:
The students complete evaluations and give feedback through Classroom Research techniques.

Students' Feedback / Response to this Best Practice
The students like class more, and very few are opposed to these activities. Ninety-five percent of the feedback on evaluations indicate they love the teamwork. The students like the fact that they bond outside of class because they know each other better. This bonding occurs in the classroom and then extends beyond it.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Student-Based Learning

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #1, #3, #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
Student Based Learning reflects all of the words in #2, especially the emphasis on mutual respect. Marsha has only one ground rule with her classes - respect each other.

Innovator's / Contact's Name: Marsha Hopkins, Sociology Faculty

College: Phoenix College

Brief Description of this Best Practice:
Marsha believes that her approach to Student-Based Learning is a philosophy, "something you have to embrace; it has to come from within " She describes this as a belief that she has about herself, her students, and her classroom. The major goal Marsha wants is to get her students to think and to ask questions. Student Based Learning is therefore an information-flow. The teacher has information, and the students have information; everyone should feel challenged to share and to learn. The teacher and the students work with questions at the beginning of each class session. At the end of class, there is a summary that serves as a new beginning for the next session. The students do get a topical outline for the course; it is a dynamic core for the students to work with. Marsha indicates that "buzz words about teaching techniques worry her because a technique is so external. You can't just fix something by doing another technique. Student Based Learning is internal - for the teacher and for the students." Marsha sees herself as a seeker of information; the textbook and the teacher are resources for the students. She adds that she "doesn't see a difference between the teacher and the students "

Background / History of this Best Practice:
Marsha indicates that she was part of a Writing Across the Curriculum project years ago in the district, and these discussions brought her philosophy to 'conscious awareness'. She has been influenced by the writing of Buckminster Fuller and Friere She has been able to have discussions with her students regarding her philosophy, "if you feel confused, that's good. Let's talk about it.

Now think it over. This is information flow."

Resources Involved for Support of this Best Practice:
Time is an important resource in pursuing Student Based Learning, because "the key is not to change what you are doing, but to change the 'why'." The first step is for teachers to examine what they are doing in their own classrooms, and to question and identify what they want to occur. Reading about new ideas will also be helpful, as well as visiting other classrooms, not to see a technique, but to see what can be exciting

Extent of this Best Practice:
Marsha brings her philosophy of Student Based Learning into all of her classes. She has a conscious dialogue regarding how "the content dictates practice of this approach". She is constantly evolving her approach, and is always reading "This requires a lot of work and energy on my part." She designs new tests each semester Marsha indicates that her approach keeps developing because "life has changed. We have to learn to take in information faster, be more flexible and more fluid."

Outcomes of this Best Practice:
Marsha indicates that she does emphasize measurable outcomes for herself and her students. She expects students to be able to apply concepts, not just memorize information. Her students learn to integrate. The students who are not there regularly, working in groups, do not seem to do as well. Consequently, there is a full range of grades from A to F

Evaluation of this Best Practice:
Marsha considers both product measurement and process measurement. The students do observations in the field and draw conclusions. They complete reflective writing, completing the thought "I understand...". This has to relate to what they are getting from the class. In addition to various forms of assessment, the students have to take two take home exams. Marsha points out that "the purpose of these exams is not to catch them, but to bring some type of summary and closure to their learning. " The exam questions are comprehensive in that the students are asked to think about information and learning from day one The tests do not cover only the book, so the students cannot just lift out sentences

Students' Feedback / Response to this Best Practice:
Students' comments reflect their active learning, including "I have learned so much in your class; I love coming to your class because it makes me think"; and " In other classes, they said something that we looked at in this class!". Marsha points out that "students need to feel secure in their environment, and some may not, in this class, at first " But she respects that, and works with them, and they become the staunchest advocates

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Patient Care Technician Program

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
this describes the experience from the students" perspective.

Innovator's / Contact's Name: Dorothy Sisneros, Health Enhancement Faculty

College: Phoenix College

Brief Description of this Best Practice:
The Patient Care Technician Program is a semester long program that will educate an individual to work in a health care setting, in a new job category called the Patient Care Technician. These students learn patient care skills via the nursing assistant program, including phlebotomy, EKG technical skills, 'point of care' testing skills, and advanced patient care skills. The full-time program is thirteen credit hours. The pre-requisites for the students include a GED or high school diploma, and CPR certification; there are no educational pre-requisites. Dorothy indicates that this program is becoming a "model for collaboration to create and evaluate new curriculum".

Background / History of this Best Practice.
This program began with a meeting with people from hospitals two years ago. The Arizona Health Association coordinated with two community colleges and seven different health care agencies, and a collaboration developed. Meetings were held to develop curriculum. The team from Phoenix College was interdisciplinary, representing five departments. Dorothy points out that "the impetus was that health care field was changing; they are looking for a multi-skilled worker.

Resources Involved for Support of this Best Practice:
Dorothy indicates that time is a major factor. A lot of people were involved, and they all spent a great deal of time working on the curriculum. Dorothy found that "people came together because of the students. This is really what the industry needed " This program has no operational budget;

currently money is being pulled out of other existing budgets

Extent of this Best Practice:

Work was started on this program in Fall 1994, and this has become months of risk and heated discussions as the program required people to change something from an old paradigm to a new paradigm. The goal is to add more skills to this program so that the worker is more flexible and valuable. Currently, the curriculum development is bound by the system and program definition, but work continues.

Outcomes of this Best Practice:

Last year twenty eight students entered the program, and twenty two completed it. These students get an award of completion. Twenty of these students are employed, as of last May; the summer program is just finishing. This program is attracting two different kinds of students - those who are new, and those who are being retrained within the institution

Evaluation of this Best Practice:

There is constant evaluation to keep the curriculum and the students current. Dorothy indicates that "we look at the coursework we've developed, and work to address issues of consolidation." The students go into the facilities; there is a lot of clinical time for application work. This involves all kinds of assessment.

Students' Feedback / Response to this Best Practice.

The students are very enthusiastic and grateful for this program They are excited to be part of a major change going on in the industry. They show great pride. They also become excited about school, and consider taking more classes at PC

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: PASS - Program for Adult Student Success

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #1)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
the educational goals emphasize the active learner, especially the higher cognitive, independent learning skills. The program encourages collaboration and shared responsibility.

Innovator's / Contact's Name: Tom Lombardo, Psychology Faculty, Program Coordinator

College: Rio Salado Community College

Brief Description of this Best Practice
PASS is an Associates Degree program based on an integrated curriculum. Within the program of study there are six overarching educational goals ranging from communication and higher cognitive skills to self-development and information literacy. Tom believes that "PASS emphasizes fundamental skills that have contemporary and future relevance to the students professional and personal lives". This program is accelerated, and structured to accommodate the lifestyles, habits, and personalities of the working adult learner. The goal of the program is to enable students to complete an AA degree in two years while working a full time job and maintaining family responsibilities.

Background / History of this Best Practice
In 1991, the college president initiated the idea for this program. A PASS committee, of administrators, faculty, and staff, was formed that has developed and monitored the program over the last four years. Originally, there were semester faculty meetings; now there are new faculty orientations. Annual faculty workshops have been held for the past three years. Initially, student orientations were conducted by the student services staff; now academic orientations are conducted for the students by faculty and the administrative staff.

Resources Involved for Support of this Best Practice
Informational resources are very important to PASS. These include ideas collected from articles,

people, and workshops. Human resources include the involvement of all of Rio Salado's full time faculty and administrative staff. Staff is needed to run the program; Tom indicates the importance of "a coherent integrated working staff to organize and monitor the ongoing daily activities of the PASS program." Resources are also necessary for ongoing efforts to improve educational facilities for the students.

Extent of this Best Practice:
PASS has a variety of accomplishments and achievements. Over one hundred students have graduated from PASS. PASS produces more AA graduates than any other program at the college. Faculty involvement and competence are continuing to increase as they become more of a team. Tom indicates that "the curriculum has come a long way - there is a high degree of standardization and integration".

Outcomes of this Best Practice:
The main outcome is that more students are able to complete their Associates Degree. And students are definitely demonstrating higher cognitive skills as a result of the integrated curriculum.

Evaluation of this Best Practice:
Two years ago the college initiated a systematic ongoing student assessment program for students in PASS. This assessment was a portfolio notebook that was used to collect, document, and plan for improvement of students skills. The initial reaction from the students was negative; it was perceived as too much additional work. Presently, a large number of students appreciate and understand the philosophy and the value the assessment notebook. In general, students are doing a better job of maintaining their notebooks. The student orientations have helped this. Faculty also seem to have a better understanding of it. The objectives and required activities of the notebook have been streamlined

Evaluation of the program also includes student course evaluations, and faculty evaluations. Tom states that the college "continually works on clarifying the educational objectives of the program so that the individual courses can be clearer on how they address the educational objectives." The data collection system for the program is getting more organized

Students' Feedback / Response to this Best Practice
Student feedback is received through course evaluations, through the assessment notebook, and 'face-to-face'. The lead faculty and the monitoring provided by Student Services provide strong links with the students. There is active, out-reaching

students comments???

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Learning Cycles in Lab Science

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shard responsibility, and mutual respect.
(and #1)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
this methodology increases the students' responsibility in their own learning, and calls for much more active learning.

Innovator's / Contact's Name: John Arle, Biology Faculty

College: Rio Salado Community College

Brief Description of this Best Practice.
This teaching methodology encourages students to learn science by *doing* science, by asking questions and finding answers. Finding the answers to questions about living things involves doing biology. The students do their labs, discover facts and concepts, and then study the context. The way the lab is done is that students are doing most of the research and inquiry work into the unknown solution of a problem. The labs are therefore a problem-solving experience with discovery learning.

Background / History of this Best Practice:
The history of this methodology dates back to the Bio-Sciences Curriculum Study project in the 1960s. John has been using this approach in his classes for nine years, and his work has been impacting the college wide Biology program for three years.

Resources Involved for Support of this Best Practice
Special training is needed for a faculty member to use this methodology, but he can utilize existing lab materials for the most part. There needs to be time for writing the labs, and for 'trying out' the lab on sample class. The model for learning this methodology is to write the lab, do them with peers acting as students and evaluate the labs and the learning

Extent of this Best Practice:

There are approximately twenty five faculty, primarily adjunct faculty using this methodology each semester. These classes would include approximately 580 students.

Outcomes of this Best Practice:
There is significant improvement in the students' skills in situation and problem analysis. They learn analysis application and attack skills. The students are also better at written expression, and there is improved collaboration since they work in teams of two or three.

Evaluation of this Best Practice:
The evaluation is based on faculty evaluations and on student evaluations

Students' Feedback / Response to this Best Practice:
The students find this methodology tough, because it increases their responsibility. Some students indicate they would prefer the rote memory approach to learning. Even thought the faculty see increased higher level thinking, the students don't necessarily share the programs' goals towards increasing higher level reasoning through science

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Multimedia Projects-Research Methods in the Social and Natural Sciences

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
the Multimedia Projects made the students become more active in their own learning and increased their collaboration.

Innovator's / Contact's Name: Dr. Bernie Combs. Psychology Faculty

College: Scottsdale Community College

Brief Description of this Best Practice:
Multimedia Projects - Research Methods in the Social and Natural Sciences is an approach to incorporating technology and research methods in order to increase student learning. Computer labs present a tutorial that takes students through five different research methods. The intent is that these research methods will be taught in introduction courses in several different disciplines. Bernie indicates that the main purpose is to have students understand that the research methods remain the same even if used in different disciplines" The tutorial is interactive; the students can choose which path to go down. They will see, and use, a method in Biology, and see the same method in Psychology.

Background / History of this Best Practice.
Bernie indicates that his work in Multimedia Projects began about four years ago because of a specific problem in a class. A student was having a problem dealing with the concepts. Bernie saw hypercard as a way of helping students practice with these concepts.

Resources Involved for Support of this Best Practice:
Bernie was chair of the first district Authoring Languages committee, and felt he received much support in this role. He states that "two primary things that people need are time and money.

Much development is currently going on by faculty who wear all hats; content expert, instructional designer, programmer, etc A more productive option to an individual faculty member working alone would be for a team to work on the multimedia projects. This team would need to include a programmer, the faculty, and an instructional designer Additional support for resources from the district would include time, money, and help with logistical and operational issues for the team. Bernie also believes that using the approach of Multimedia projects will be more successful with more campuses involved and more support from the district. It does seem that those currently involved in these projects are "doing it despite the system, rather than because of it - all of us scramble for people and resources."

Extent of this Best Practice:

Multimedia Projects are in a state of on-going development - one area will become complete, while others are currently being worked on. One project that is complete is the Microcomputer Based Lab in Psychology classes. For this project, several programs were written, and others were purchased. Bernie indicates that he is currently working on a project that includes 1) general research methods, 2) correlation, and 3)experimental methods The content is written, but the programming needs to be done.

Outcomes of this Best Practice:

The current Multimedia Projects have learning outcomes that are key to the programs. These learning outcomes include higher level thinking by the students. The computer labs can deal with the more conceptual areas of the discipline, not just the 'encyclopedia stuff'. In one program written by Dr. Combs, the students had to conduct the experiments and draw conclusions (true simulation). These students are surveyed regarding the impact they think the labs have on them. Most students feel the labs helped learning the material. They enjoyed the labs - "it gives me a chance to *do* Psychology". The students also liked working at their own pace. The students without computer skills learned computer skills; the students with these skills were really valuable, becoming advisors (on special projects) to the faculty. Overall, there was quite a positive impact on the students who used these materials.

Evaluation of this Best Practice:

Surveys gave quantifiable data to some extent; for the most part the evaluation data was qualitative. Bernie indicates that "although it was not easy to fairly assess the actual learning impact of the materials, non-controlled studies suggest a 2-4 point increase in student test scores averages with the use of these materials "

Students' Feedback / Response to this Best Practice

The reactions to the labs were quite varied because of the range of the students. Many students 'dug into the challenge', and generally were quite positive The students liked doing the labs together, and teaching each other.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Learning Community

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #3, #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
it is very focused on everyone, the teachers and the students, being active learners through the collaboration that will be built into the Learning Community.

Innovator's / Contact's Name: Dr. Barbara Fahey, English Faculty

College: Scottsdale Community College

Brief Description of this Best Practice:
This Learning Community focuses on linking two classes in two separate disciplines, English and Biology. The teachers involved are designing the classes, the lessons, the course materials, and the assignments to make them relevant to each other. The specific courses are English 102- Freshman Composition, and Environmental Biology. In the composition class, the students will read issues in Environmental Biology. Their writing will focus on a particular environmental issue and impact. This will become the problem for their research paper. In the Biology class, they will write about the relationships between species, the effects on the environment, etc. The students written paper will be graded by both teachers, for content knowledge and for writing skills.

Background / History of this Best Practice:
Financial support for this program came from a district fund that brought in experts on Learning Communities. Barbara indicates that their initial efforts several years ago were confronted by the issue of enrollment in both classes. She states that "the scheduling issues are tremendously complicated. But this time, we hope to have anticipated the issue. My composition class will draw from three of the Biology classes."

Resources Involved for Support of this Best Practice:
Barbara indicates that there is a fairly active Learning Community in the district, and that a number of faculty are currently involved in the project funded by the PEP grant coordinated by

Barbara Shovers (Chandler Gilbert Community College). The Dean of Instruction at SAC gave the faculty release time to work on this program. This time is very important because it gives each faculty member the time to know each other's course, and to coordinate the material. Ideally, each faculty member will be in each other's class, so that they will be seen by the students as co-learners.

Extent of this Best Practice:
This fall semester, the faculty are taking each others classes and doing the curriculum integration. This Spring Semester, the actual linked classes will be offered. This will be indicated in the schedule, and presented to the students in English 101 this fall. After this program gets underway many other Learning Communities will be considered.

Outcomes of this Best Practice:
Barbara indicates that " we expect that grades will be better because the content will be approached by a variety of directions. This ought to help to make more sense." They will be a wonderful support group for the students in this Learning Community, and a lot of collaborative learning, because the students will be learning together This will help retention. The content of the courses will get a great deal of reinforcement Barbara states that "I'm learning more; its a very refreshing thing and its revitalizing. " She is looking forward to the students seeing that there isn't an absolute barrier between being a teacher and being a student; everyone is learning together.

Evaluation of this Best Practice:
The courses will have assignments and tests. The faculty are also planning on comparing retention, and grades, of the 'linked' students with the 'non-linked' students.

Students' Feedback / Response to this Best Practice:
Because this Learning Community is still being developed, there is no student feedback at this time.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Home Pages for the World Wide Web Access

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #3)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
this project is increasing collaboration among faculty, departments, and students through technology and involving SMCC even more with the larger community.

Innovator's / Contact's Name: Sandra Mares, Programmer Analyst
Pam Williams, Training Intern in Educational Technology Center

College: South Mountain Community College

Brief Description of this Best Practice:
This innovation consists of establishing SMCC home pages for World Wide Web access. Sandy has encouraged developers on campus to use a web page template for consistency and ease of learning the hypertext markup language used in creating web pages. The goal is to place pertinent information regarding South Mountain Community College in a place that is accessible by all - students, staff, faculty, and the community at large, while familiarizing participants with this technology and its possibilities. Sandi has cultivated "web" enthusiasm on campus and has developed many pages for the campus, including the college's own home page.

Background / History of this Best Practice:
Sandi indicates that she got started because she received instruction training from Alan Levine through the Maricopa Center for Learning and Instruction (MCLI). They provided equipment and software that allowed South Mountain Community College to become a "World-Wide-Web Site" in March of 1995. As an objective for the Educational Technology Center at SMCC, the staff at ETC introduces development and the web to faculty and their students, staff, and community members.

Resources Involved for Support of this Best Practice:
Educators interested in doing this need a Hypertext Markup Language (HTML, the language used

to create Web pages) editor, and a Web navigational tool (such as Netscape 1.1N) with access to the Web. In addition it would be helpful to have a scanner, a graphics software package, and lots of time.

Extent of this Best Practice:
Sandi indicates that "we don' ever want to be *done*; this is a learning experience and a way to get 'our campus-community' involved with computers and the Internet". The goal for this project is that the potential of the web will be fully utilized at SMCC. It will provide a platform for the campus to learn about other departments and areas; mutual respect and opportunities will develop from this project.

Outcomes of this Best Practice:
The results so far are that people on campus are getting excited about the Internet. The goal is to spread the "web fever" throughout the campus and the community The Learning Assistance Center has posted pages that will assist students through the tutorial process at SMCC. It is conceivable that potential students could learn about South Mountain while 'surfing the net'. Faculty members are making resources available to students through the net. Above all else, students are becoming our best 'web' resources. Sandi developed and posted guidelines to the SMCC web pages for participants who are interested in learning how to develop and post web pages at SMCC. These guidelines may be found at the URL address:

http://www.smc.maricopa.edu/Subl/DevProc.html

Evaluation of this Best Practice:
The feedback to date is informal. People on campus are excited and interested in creating web pages for their areas It has become a collaborative effort with many participants and is expected to expand. The number of SMCC web pages are tracked

Students' Feedback / Response to this Best Practice:
Faculty will continue to involve students in web page development. One SMCC Communications Class student developed a web page as a project - as a result, Northern Arizona university hired her as a Web Page Consultant to departments at the university.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject. Dynamic Learning

Key Concept Met: #2. Everyone is an active learner and teacher through collaboration, shared responsibility, and mutual respect.
(and #1, #3, and #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
the students are really responsible for their own learning. They see themselves as teachers and as students.

Innovator's / Contact's Name: Jackie Jaap English Faculty
Pete Facciola
Yvonne Montiel, Reading Faculty

College: South Mountain Community College

Brief Description of this Best Practice:
Dynamic Learning is a program in which the students enroll in a block of classes, for nine credit hours. The philosophy for Dynamic Learning is to have the students take responsibility for their learning. Jackie indicates that it "actually is one program that represents the paradigm shift, the desired learning paradigm in action. Team teaching, student teams, and technology are key components. the major factor in changing the emphasis from teaching to learning is "the time they spend together more than anything." The students see the block of classes in the schedule, and come to realize that it is a"'whole new way of teaching and learning."

Background / History of this Best Practice:
Jackie has always been interested in researching how the brain really learns, and took a sabbatical a few years ago to further her studies. She spent time with people involved in national education reform. She and a colleague have 'put their hearts and souls' into developing a program where the philosophy and methodology are based on 'how people learn naturally'. Jackie indicates that much discussion and planning went into the model and a philosophical shift on their part happened. They also read many books and articles.

Resources Involved for Support of this Best Practice.

Jackie indicates that a lot of reading is necessary to make the philosophical shift that is necessary for Dynamic Learning. She has a bibliography of over 100 books. She also has found administrative support to be very important. "Being involved in Dynamic Learning has us asking questions about the need for many systems changes, including looking at loading changes, curriculum changes, etc."

Extent of this Best Practice:

This semester the block of classes includes English, Reading, and English Humanities. One goal is to have Dynamic Learning develop into a transfer degree, so that the students can all go over to the university together. Time is being spent on getting the core curriculum together.

Outcomes of this Best Practice:

Jackie has found that "a major outcome is that student writing is vastly improved, and they know it. The students are learning to listen to diverse opinions, and distinguishing between debate and dialogue. Their skill levels are much better We see changes in them as people. They make lasting friends, who become like family. "

Evaluation of this Best Practice:

Evaluating is done through quantitative and qualitative methods. Portfolios are a key assessment tool. Students also complete evaluations after each class Jackie points out that "the retention rate is phenomenal; it was 100 % last fall, and has been at least 90% since we started."

Students' Feedback / Response to this Best Practice:

Students participate in an orientation before the semester starts. This is important because the students expect traditional teaching and learning. Jackie has found that "these students are ready for a change. We work with them, taking things slowly. We are pretty directive at the beginning, then less so at the end. " The students are very positive about /Dynamic Learning and about they learn about their own learning. After this experience, some have told Jackie that they have said to other teachers "we're sorry, we simply don't learn this way "

C. Best Practices that align with key concept #3

The learning process includes the larger community through the development of alliances, relationships, and opportunities for mutual benefit.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Service Learning

Key Concept Met: #3. The learning process includes the larger community through the development of alliances, relationships, and opportunities for mutual benefit.
(and #1, #2, #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
of the strong relationships with the community and the growth and benefit for all involved.

Innovator's / Contact's Name: Marybeth Mason, English Faculty
Lois Barthalomew, Dean of Student Services
Duane Oakes, Director, Student Life
Maria Hesse, Business Faculty

College: Chandler Gilbert Community College

Brief Description of this Best Practice:
Service Learning combines community service with academic instruction, focusing on critical thinking and problem solving, values clarification, social and personal development, and civic and community responsibility. The key components of Service Learning include a clear link to course competencies or objectives, and a relevant experience with a carefully structured assignment that has clear objectives and evaluation criteria. This experience must include critical thinking and / or problem solving, accountability, reflection in writing, sharing and celebration. Finally, Service Learning must make a meaningful contribution to the community

Background / History of this Best Practice.
Chandler Gilbert Community College received a grant to develop ways to incorporate community service into the curriculum in Spring 1993. The pilot was conducted in Fall 1993 in an English 102 course, with the theme, "social problems". This pilot had the students completing a service learning project as part of the required research, reading, and writing

Resources Involved for Support of this Best Practice
Administrative support and faculty support are very necessary for Service Learning programs. Money was used to hire students to support faculty with community placement issues. Money is

also used to pay stipends to full time and part time faculty for training, both for the initial awareness training and for the in-depth training. A strong commitment to faculty development is necessary for successful Service Learning programs.

Extent of this Best Practice:
The people involved in Service Learning at CGCC are passionate about it and have a clear goal of linking the curriculum and the community. Therefore, more class sections are added every semester with Service Learning experiences as part of their curriculum. Marybeth indicates that "every division is involved, with students completing at least one Service Learning experience." This effort has spread very quickly at CGCC, the President and Deans are very committed to Service Learning. "This is something we stand for", Mary Beth states. She adds that this is the classic success story of a cross representative team of people, with strong commitment, who have initiated a best practice at a college.

Outcomes of this Best Practice:
The first major outcome is increasing the personal development of the students. The second major outcome is developing writing, thinking, researching, and problem-solving skills by having a hands-on experience in solving problems. Reflection is a key element in Service Learning, and students write about "what they have learned, how they have grown, and how it links to the curriculum?."

Evaluation of this Best Practice:
Constant informal data gathering is done through Classroom Research techniques. A great deal of feedback is received from the students. The program is working to increase formal and standardized data collection for evaluation.

Students' Feedback / Response to this Best Practice
Overall, the students give very positive response to Service Learning. Marybeth indicates that " some students initial response is negative, but they soon realize that this is the best possible way to learn."

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Service Learning Strategies

Key Concept Met: #3. The learning process includes the larger community through the development of alliances, relationships, and opportunities for mutual benefit.

Analysis:
This Best Practice meets or aligns with the stated key concept because:
the students are taking learning out into the larger community.

Innovator's / Contact's Name: Linn Taylor, Coordinator of Student Activities and Community Education

College: Estrella Mountain Community College

Brief Description of this Best Practice:
Service Learning Strategies combines community service with academic instruction focused on values clarification, social development, and civic responsibility. The academic disciplines that have service learning strategies include English, Reading, Communication, Biology, Psychology, and Geology. Service Learning Strategies give the students the opportunities to do whatever they want to as long as it is curriculum based, within the course they are enrolled in. Linn Taylor, the program coordinator pointed out that, in a Reading class, the students' Service Learning Strategy might be to be a tutor in the community. As coordinator, Linn goes into all the classrooms and gives an introduction and background on Service Learning Strategies. She has found that a key factor in the success of this program is how it is presented to the students.

Background / History of this Best Practice:
EMCC started work on Service Learning Strategies one year ago, after a Spring workshop. Service Learning Strategies was piloted in PSY 101 and has become a mandatory component in many courses.

Resources Involved for Support of this Best Practice
Financial resources are needed to support the flextime with the faculty and for the in-house workshops. Time is needed for the one-to-one contact with the program coordinator. A mini-grant facilitated help with the program paperwork and with placement in the community. And, financial resources were used for rewards, including an end of the year banquet.

Extent of this Best Practice:
Five hundred EMCC students were involved in Service Learning Strategies in their courses last Spring. This started as an 'up the ladder' program at EMCC, coming from the staff and faculty, and has great potential to be campus wide A Service Learning logo, in the schedule, will indicate the courses that have service learning strategies as part of the coursework. A major goal of the program is to have one Service Learning project by each student before graduation. The fact that Service Learning Strategies directly support the college mission statement indicates that these goals will be reached.

Outcomes of this Best Practice:
Linn indicates that "some of the results that are seen include career directional change, and the benefits of 'live research' where students can 'touch' what's actually going on, see what's actually going on in society and get past the 'I' syndrome"

Evaluation of this Best Practice:
Currently the evaluation of this program is informal A major focus this year will be to develop and document assessment of the service learning projects. This effort should help the faculty and the students assess the experience and measure how it affects the students' learning. Linn indicates that " the most important part of Service Learning is reflection and feedback".

Students' Feedback / Response to this Best Practice:
EMCC primarily has nontraditional students As they become initially involved in Service Learning Strategies they are concerned about the time involved. After completing their projects, they 'love it'.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Center for International Studies

Key Concept Met: #3. The learning process includes the larger community through the development of alliances, relationships, and opportunities for mutual benefit.
(and #1, #2, #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
it targets relationships in the larger community that include the private sector as well as the public sector.

Innovator's / Contact's Name: Dr. Jim Rassi, Project Director

College: Paradise Valley Community College

Brief Description of this Best Practice:
The Center for International Studies is an 'umbrella' program that involves a partnership between Paradise Valley Community College, the World Trade Center of Arizona, and the American Graduate School of International Management (Thunderbird). Jim notes that "we focus on international business, specifically the Pacific Rim and Mexico. Some of the programs developed by this emerging Center include international travel opportunities for faculty and administration, internationalizing the curriculum, the Global Perspective newsletter, a speakers bureau (Global Speakers Service), an Associates Degree and two certificates in International Business International Business, business seminars for the private sector, and a faculty development program that targeted the Pacific Rim and Mexico.

Background / History of this Best Practice:
Jim indicated that the Center for International Studies was established last year through financial assistance from a Title VI-B Grant. This is the second year of operation. The initial interest in this innovation came from a conference that Jim attended in Washington, and his travels in the Pacific Rim. He learned about the grant opportunity and wanted to promote international business at PVCC.

Resources Involved for Support of this Best Practice
Jim points out that very strong administrative support is crucial to establish a Center for

International Studies. He has also received support and encouragement from the district office. He stated that "these things just don't happen without strong support from the top". The Center has received two grants to support the directions it has taken

Extent of this Best Practice:
The curriculum work has resulted in an Associates Degree and two certificates in International Business. They have spent one year in developing the curriculum, and one year working through the curriculum process. They have offered four seminars to the private sector. They publish the Global Perspective newsletter for both the private sector and the public sector. They also have been designated a Regional Center for Asian Studies by the East/West Center. Jim also notes the major staff development component at PVCC, which is helping the faculty to internationalize their curriculum. Jim feels that there is unlimited potential for the Center, "because the world is shrinking and the global economy is here " Future programs will include an international library resources publication, a faculty development program on Mexico, telecommunications systems, and more international seminars for the business community

Outcomes of this Best Practice:
The students are very excited about getting international courses in their curriculum. The enrollments in these classes have significantly increased, and with new courses being taught at the World Trade Center this semester. The enrollments and course offerings are expanding to meet the demand. Jim points out that "the Center for International Studies is able to service this area." He states that the Center has been very instrumental with our faculty and our students; it has made a big difference. Faculty have had profound experiences that influenced their teaching and learning."

Evaluation of this Best Practice:
Jim indicated that they "started by doing a feasibility study to see where needs were in Maricopa County. Eight hundred questionnaires were sent to businesses and organizations. We could clearly see the needs of the private sector. " The Center is in the second year of the grant, and will have to file a two year report to meet the program guideline An Advisory Council has been established that will also assist with evaluation Jim adds that "it is very exciting when you see this kind of impact; people's lives are being redirected "

Students' Feedback / Response to this Best Practice:
The students have definitely wanted to internationalize their programs, so they are very enthusiastic. The Center not only providing international studies in the classroom, but also with internships, which are part of the Associates Degree program Jim points out that "we are also working with people who already have business degrees We have one year Certificates in International Business for people in the private sector who want to learn more about international business and stay competitive in the global market "

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Occupational Skills Packages/Flex Degrees Program

Key Concept Met: #3. The learning process includes the larger community through the development of alliances, relationships, and opportunities for mutual benefit.
(and #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
this is a 'seam-less partnership' with the community. This takes the college into a different realm of focusing on the customer, and provide what they want. It will become an 'on-going loop' of training.

Innovator's / Contact's Name: Dr. Jim Van Dyke, Occupational Dean

College: Rio Salado Community College

Brief Description of this Best Practice:
Occupational Skills Packages are selected courses of study that are designed to meet the needs of people wherever they are in their lives. Upon completion, the students receive certificates. Jim indicates that "we guarantee their performance to the competencies, and continue to train them until they can meet these competencies". What is important is that students are defining their needs and making choices. The Occupational Skills Packages chosen by the students may be part of the Flex Degrees.

Background / History of this Best Practice.
This concept has been in development for two and one half years with a consortium of five major corporations in the Phoenix metropolitan area The program also has the support of other corporate and government entities.

Resources Involved for Support of this Best Practice.
The resources that support this program come from the partnership between Rio Salado and the various corporations. Rio Salado provides the 'thinking' , the curriculum, and some supplies, and the participating corporations may providesome instruction, students, and employment.

Extent of this Best Practice:

The program has now completed the first phase of development, and is just starting its actual course offerings.

Outcomes of this Best Practice:
Jim states that "we are readily able to enhance skills for existing work positions, and help students recareer for new positions. We can maintain an educational support system to take them wherever they want to go".

Evaluation of this Best Practice:
The primary evaluation factor will be meeting the person's goals, and successful employment. The evaluation will be a response to the program guarantee - if the program is very effective, there will be 'no response'. Jim indicates that "there is an 'in-community' check point" in the program.

Students' Feedback / Response to this Best Practice
At this point potential students say they have never heard of this before, and they ask why this hasn't existed previously. Jim believes that students see institutions as focusing on what they're doing, not on what the students' need

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Concurrent Enrollment

Key Concept Met: #3. The learning process includes the larger community through the development of alliances, relationships, and opportunities for mutual benefit.
(and #2, #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
this creates a strong alliance with the high schools, and increases the possibility that these students will take community college courses rather than solely going on to the university.

Innovator's / Contact's Name: Dennis Shaw, Math Faulty

College: Rio Salado Community College

Brief Description of this Best Practice:
Concurrent Enrollment is a program where Rio Salado has gathered certified teachers who teach high school and for Rio Salado, and allow those teachers to offer courses during the academic day for high school seniors and accelerated juniors during high school on their own campuses. All of these courses use college textbooks, follow the college syllabus, follow the same standards as any college class, and the students receive college credit. The students also have the option for receiving high school credit for the course if they prefer .

Background / History of this Best Practice:
Rio Salado Community College started a Concurrent Enrollment program almost fifteen years ago with two private high schools in the Phoenix area Three years ago, Rio Salado was approached by the Tempe High School district, consisting of five high schools, to develop this program for their school. In the Fall of 1993, mostly Math courses were offered. The program then expanded to Mesa high schools. Courses such as Math, Science, English Humanities, Spanish and French were added.

Resources Involved for Support of this Best Practice
The primary resource is a school district where their teachers are also qualified to teach community college courses. There also needs to be total commitment by the school district administration and school board. Dennis states that "there must be a clear understanding by the teachers that the curriculum must be the college curriculum " This means training for the Math

and Science teachers to that they can follow the curriculum reform movement on the college level. Financial resources are used for stipends for teachers who participate in training.

Extent of this Best Practice:
The Concurrent Enrollment program has grown from one hundred students to over two thousand students (headcount) in the last three years. Dennis indicates that the college is receiving phone calls from many school districts regarding the program "These districts find out about Concurrent Enrollment from word-of-mouth among the teachers who are excited about the program." This program gives talented students another option besides AP classes. These are students who have completed most of their high school credits. The program does not encourage students who are not qualified. Students must meet the standard prerequisites and take the ASSET test when required by a particular discipline.

Outcomes of this Best Practice:
The number one objective of the program is to keep talented and gifted students in school, help them progress along the academic path, and better prepare them for college by moving into college classes while they are in high school They can start their college coursework while they are in familiar surroundings. The retention rate in this program is 90% or better.

Evaluation of this Best Practice:
Rio Salado Community College has completed follow up research with students who finished the program for the last two years. Research has also been done following students who have gone on to college regarding their success in college Surveys so far indicate that the students report that they are well prepared for the sequential course in Math and Science Dennis point out that "if anything students have found that they are better prepared than their fellow students." Another significant result has been that at this point, all students who took a course in this program, and who took the AP exam, passed the AP exam Many of the Math and Science courses are using a standard final.

Students' Feedback / Response to this Best Practice.
Students and parents are extremely positive about this program. They like the convenience, and the fact that they can leave high school with almost 30 college credit hours.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Senior Adult Writing Project

Key Concept Met: #3. The learning process includes the larger community through the development of alliances, relationships, and opportunities for mutual benefit.

Analysis:
This Best Practice meets or aligns with the stated key concept because:
the learning and memories are shared with the larger community in a project where everyone benefits.

Innovator's / Contact's Name: Nadine Smith, Coordinator of Community Education, English Faculty

College: Scottsdale Community College

Brief Description of this Best Practice:
The Senior Adult Writing Project focuses on senior adults writing manuscripts, including non-fiction, fiction, and poetry for publication through the project. Senior adults have to be at least sixty years old to submit manuscripts; the average age is seventy five. Several faculty members are included in the project as the selection committee. The first and second book published were all reminiscences. The third book included fiction Nadine stated that the project sent out brochures to senior centers and creative writing classes

Background / History of this Best Practice:
Nadine indicated that a few years ago, she was teaching a class to senior adults, and thought that their writing was very good. She received a grant from the Desert Foundation, and was able to coordinate the first collection of reminiscences called A Map of Days. The writers were each given a free copy of the book. Copies of the book were sold, and the money from the grant was recovered. The project has since published three more books, and are ready to do their fifth book.

Resources Involved for Support of this Best Practice:
Financial resources are needed for publication of the collection of writings. Nadine also indicated that it was important to enlist the help of faculty. Time was needed for reading and editing. The first time the book was published it was professionally done, but now the staff does all of the formatting on Pagemaker software.

Extent of this Best Practice:
Nadine indicated that the college intends to keep doing this project. They plan to publish one book every other year, because of the months needed for the call for manuscripts, the committee meetings, and the reading and editing. Other possibilities for expansion would include involving additional community colleges in their own projects.

Outcomes of this Best Practice:
The whole purpose of this project is to promote writing as a self-validating process. Nadine has found that "this community has the most interesting senior adults". This project is brought to high point with a reception for the authors when a book is published "It is such fun for everyone", Nadine says.

Evaluation of this Best Practice:
The committee gives feedback to the college with the completion of each book. The sale of the book supports the publication of the next book, so the project is self-sustaining.

Students' Feedback / Response to this Best Practice
The student writers are absolutely thrilled with this project and consider it an honor to be included. They also comment on how attractive the book is.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Distance Learning Initiative

Key Concept Met: #3. The learning process includes the larger community through the development of alliances, relationships, and opportunities for mutual benefit.
(and #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
it reaches into the community, and definitely provides an opportunity for mutual benefit.

Innovator's / Contact's Name: Eric Loring, English Faculty

College: Scottsdale Community College

Brief Description of this Best Practice:
This Distance Learning Initiative involves teaching a normal class, with the exception that the class is broadcast live on cable. To do this, Eric teaches in a regular classroom that has been modified for broadcast. There are three cameras in the room; one is on the students; one is on the teacher; one is the pad camera, which is the electronic blackboard for handouts. The students in the class, as well as those in homes, can see what the teacher puts on the pad camera. Eric controls these cameras himself. The class that Eric teaches this way is Introduction to Literature. Eric indicates that " the class is very interactive; the students can electronically raise their hands, and can call in on a speaker phone. We are always learning " This Distance Learning Initiative is an alternative method of delivery - an adjunctive method of delivery.

Background / History of this Best Practice:
Eric indicates that "about four years ago he had been thinking about putting classes on the Video conference network. In discussion with his Dean of Instruction, the idea was suggested to use the cable channel. A few faculty got together for a concept meeting. Things got rolling very quickly, and Eric started his first broadcast class 'cold' within three weeks time.

Resources Involved for Support of this Best Practice:
Eric believes there are several very necessary resources. It is important to have the cooperation of the department division and of the administration It is necessary to have the full cooperation of the media/AV department. They broadcast the class, and built a console for him. It is also very

important to work with the television department. Eric also attended a workshop to get some of the other resources, and indicated that a consultant with the district is helping them.

Extent of this Best Practice:
Eric indicates that there are "bigger things down the line". He states that "the exciting thing for me is that this technology allows us to reach a population that may be physically prevented from going to college. We are reaching out into the community. And we are the only one in the district doing a class over cable TV, live." He has found this experience to be a risk, because everyone's watching you, but quite interesting at the same time.

Outcomes of this Best Practice:
This Distance Learning Initiative is getting students who wouldn't otherwise be taking classes. It may be getting people who wouldn't even consider being students in a college course, so a very positive outcome is outreach to a population that might never come to college. Eric has heard from people who aren't registered for the class but watch it

Evaluation of this Best Practice:
All of the students complete assignments and take tests. There are three major tests, plus the final; the 'distance' students come in for that. Eric also solicits feedback from the students as to how to make the experience more effective for them

Students' Feedback / Response to this Best Practice.
The students love this because it allows them to stay at home. The first class session or two is disconcerting; each student in the classroom has a microphone in from of them. But they soon become spontaneous.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Corporate Ties to the Business Division

Key Concept Met: #3. The learning process includes the larger community through the development of alliances, relationships, and opportunities for mutual benefit.
(and #1,#2, and #4)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
we are trying to draw in the community. We want to be able to empower these people, as students, to be more of a driving force in their own learning

Innovator's / Contact's Name: Norma Johansen, Business Faculty

College: Scottsdale Community College

Brief Description of this Best Practice:
This program is organized to capture additional markets over time by offering training to the business community or working to meet the needs of their training. Norma points out that, for employers, "it is a sensitive issue to say that you need training. A corporate tie with our Business Division can provide easier access, assistance, and actual training programs in the things that businesses will want." She adds that this program can provide support not just be sending students to the businesses, but also by working with their key people to develop more specific programming.

Background / History of this Best Practice:
Norma indicates that this is the second year of the program, and they are working on development. Several issues with university curriculum and accreditation requirements had the Business division explore new and additional markets. Demographics supported getting involved with people who didn't traditionally look to community colleges. This includes small businesses and international businesses. The faculty in the Business Division have realized that they can't go to these businesses with 'off-the-shelf' courses, and that they must develop new curriculum and services.

Resources Involved for Support of this Best Practice:

Norma indicated that time is always at a premium and that it is "hard to balance this when we are also teaching". Financial resources are necessary for the development and the services that they need to provide.

Extent of this Best Practice:
The Corporate Ties to the Business Division program ultimately needs to become a separate entity within the Business Department, Norma believes. This way the development, curriculum, and services can take on a business-to-business perspective

Outcomes of this Best Practice:
One major outcome will be to bring more of the community in the community college. Norma states that our goals "is to put something together that will bring in small and medium size businesses and impact how they train their employees and managers.

Evaluation of this Best Practice:
The community people who will come to SCC will be learning professionals who will be very involved in feedback. A survey instrument will be given at the end of each course, requesting ways to allow SCC to update/revise business training and learning

Students' Feedback / Response to this Best Practice:
People in the community are very receptive to the opportunities that the Corporate Ties to the Business Division program will provide.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Collaboration, Integration and Education in the Global Community: Concretizing the Vision using *The Source* on the World Wide Web

Key Concept #: #3. The learning process includes the larger community through the development of alliances, relationships, and opportunities for mutual benefit.

Analysis:
This Best Practice meets or aligns with the stated key concept because:
because: Students were linked up to a global learning community that extended from their classroom to Internet sites around the world. Further, linkages were formed as students across the district as well as world-wide used electronic communications to involve themselves in *The Source*. Mary received e-mail from students with their thanks for having made this available as well as requests for cooperative projects around the world

Innovator's / Contact's Name: Mary Long, Psychology Faculty

College: South Mountain Community College

Brief Description of this Best Practice:
Mary developed *The Source* as a faculty-created Internet center for learning and demonstrating an interdisciplinary multimedia virtual learning community. She is using the technology and content of the WWW in her classroom and indicates that "this is 'concretizing' the vision of the global community by enabling various communities both within the college as well as world-wide to get together. The on-going development includes students, the technology community through the Educational Technology Center at SMCC, the MCLI (the Maricopa Center for Teaching and Learning), and people from around the world *The Source* uses linkages to resources in philosophy, religious studies, psychology and sociology fro which virtual communication can originate. Mary believes that "technology is not a replacement for education; it is another medium in which we can educate and learn."

Background / History of this Best Practice
Mary originally investigated resources on the Internet on her own. When ETC at SMCC offered a workshop on the Internet provided by the MCLI, Mary attended the training on low to write HTML files (files used to create Internet documents). During the summer, the first version of *The Source* was developed. It has been an on-going process with interaction and input from students

here as well as world-wide educators.

Resources Involved for Support of this Best Practice:
A crucial resource is time. Mary points out that her initial work took takes hundreds of hours. However, the Internet community has developed in ways now that make its use much easier and people wanting to use it need not spend the initial time she did. Crucial resources were also ETC and MCLI, both of which provided and continue to provide invaluable help. In particular, Alan Levine was a crucial resource. Besides time and people, access to computers that can hook to the WWW are needed.

Extent of this Best Practice:
This semester Mary teaches her classes in a classroom with ten computers and a projection system. This gives her much more access with her students. She envisions students creating their own web pages as well as dialoguing with others. Mary and her students are asking and answering questions regarding how we interface with people on the Internet, including examining behavior and etiquette. They are exploring critical thinking questions that explore the differences between a behavioral education and an operational systems model.

Outcomes of this Best Practice:
Mary has found that "the students can work in groups much better, and naturally learn how to teach each other. They lose their fear of technology and computers." She has found increases in skills that include reading, writing, research, critical thinking, and thinking in concepts.

Evaluation of this Best Practice:
Evaluation proceeds in several ways. Mary uses a skills check list to assess the skills outcomes that students develop. Students are asked to annotate and reflect on their skills in reading, writing, research, and critical thinking. Students' writing is used extensively in the form of essays as well as writing on the Electronic Forum and self-reports and evaluation. Mary indicates "there really is on-going evaluation."

Students' Feedback / Response to this Best Practice:
The students are very appreciative that all of this was available to them. Students in her own classes as well as other classes ask for access to the Web sites. Responses world wide have been received. Students often stay well past the end of the class and want to "learn more on their own time". They feel there is a real difference today for people who are linked to resources and those that are not. Increasingly students want to link with their friends who are also on the Net.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Key Concept Met: #3. The learning process includes the larger community through the development of alliances, relationships, and opportunities for mutual benefit.
(and #2)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
there is a larger impact than just in the classroom. We have formed alliances with other community colleges, and school districts, and networks on a national level. There is increased communication across the line. We are breaking down the barriers

Best Practice Name, Title, or Subject:
Technology and Curriculum Reform in Math

Innovator's / Contact's Name: John Mildrew, Math, Physics Faculty
Helen Smith, Math Faculty
Ann Linder, Math Faculty
Ranjita Saha, Math Faculty
George Barrientos, Math Faculty
Terry Fender, Math Faculty
Mitzi Ferrell, Math Faculty

College: South Mountain Community College

Brief Description of this Best Practice:
Technology and Curriculum Reform in Math is a redesign in teaching and learning Math. The college provides students graphing calculators to use in class. Twenty four Calculator Based Labs are used to collect real life data, and increase the effectiveness of the calculators. The course then emphasizes technology and real life applications in the classroom. Collaborative Learning strategies are incorporated, and the classroom is set up for student groups. Math manipulatives are used. This approach to teaching Math is used in many Math courses - from Arithmetic Review to Differential Equations

Background / History of this Best Practice:
John indicates that they began moving into technology and curriculum reform two years ago.

"The faculty were highly involved, and wanted to implement these changes." He added that they had "a vision of a better way of teaching". As a group they attended many meetings and conferences. They are a very cohesive group of faculty They also worked with an ASU curriculum advisor.

Resources Involved for Support of this Best Practice:
John indicated that strong administrative support is needed for major reform. Also, access to the technology is crucial. At SMCC, they are working through a grant with the National Security Agency, who is the world's largest employer of mathematicians This grant enabled them to build a lab of six Power Macs.

Extent of this Best Practice:
John envisions a very different classroom in the future, actually within five years. The students will have laptops, and sophisticated calculators. CD Roms instead of textbooks, and their own discs. There will be more technology, and less paper and pencil exercises

Outcomes of this Best Practice:
John indicates that they have noticed better retention rates in higher level Math and in Science courses. The students are more satisfied and more involved He states that "this technology is very user friendly; it doesn't' take very long before the students are hooked." Then, they are really active in the classroom. John sees the same level of involvement from the faculty. He says that he is "having a blast. I really enjoy gong to school "

Evaluation of this Best Practice:
They use different forms of assessment Some teachers use pre and post tests and some use surveys to measure students' attitudes. They are keeping track of retention and grades.

Students' Feedback / Response to this Best Practice:
John indicates that "the students are showing an eagerness that I haven't noticed before. They are hanging around after class." The students are highly involved; they offer suggestions to the teacher. And the students say "why didn't they teach this way years ago?".

D. Best Practices that align with key concept #4

Learning occurs in a flexible and appropriate environment.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Integrated Learning Communities

Key Concept Met: #4. Learning occurs in a flexible and appropriate environment. (and #1, #2, #3)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
Integrated Learning Communities allow the flexibility of teaching and learning in so many more ways than one teacher could do alone.

Innovator's / Contact's Name: Geri Rasmussen, English, Communication Faculty
Elizabeth Skinner, Reading, Psychology Faculty

College: Gateway Community College

Brief Description of this Best Practice:
GWCC is in it's second year of a project to develop Integrated Learning Communities. Three nine-credit Integrated Learning Communities are currently offered, each consisting of a Reading , an English, and a content course delivered as an integrated curriculum. Each program is team taught with the students in the same room, from 8:30 am to 12.30 pm. Instructor focus is on enhancing anticipated parallels and on identifying additional parallels within the courses. The instructors point out that interdisciplinary redundancy can be avoided while reinforcement is enhanced and that students can see the integration points

Background / History of this Best Practice:
The Integrated Learning Community at GWCC is part of the district grant on Integrated Learning. They started with the lowest level block of developmental courses last year, and were very concerned that all of the competencies were addressed. The teachers sat in each others courses to look for the parallel points and the points of integration. This enabled them to see real integration and connections that they wouldn't have seen by themselves. This development process is being repeated for the higher-level block programs.

Resources Involved for Support of this Best Practice
Strong administrative support is needed, as well as financial support, as a great deal of time is needed to accomplish the integration. The Learning Community instructors are working with

college personnel to make the system more flexible by addressing components such as loading and scheduling.

Extent of this Best Practice:
There are three levels of Integrated Learning Communities. STARS (Students Taking Action to Reach Success) is the initial developmental block of courses. The courses are ENG 061, RDG 081, and AAA150. LINK is the next block of courses,and includes ENG 071, RDG 091, and PSY 101. Clout is the college level block and includes ENG 101, CRE 101, and COM 101.. Clout has the theme of Power in Language, and it also includes a Service Learning component.

Outcomes of this Best Practice:
There are several specific successes to date. Retention is higher than normal in the lower level developmental block. Attendance and punctuality have been higher. Most students in the lowest level block have continued at GWCC. Students demonstrate thinking on a higher and more sophisticated level. An important goal is to see if the students can see the connections and the elements of integration, and their work does demonstrate this. The teachers are able to utilize various instructional methodologies that are not often possible in traditional classes. Therefore, this leads to faculty growth, because instructors are learning more about students, and more about teaching.

Evaluation of this Best Practice:
Classroom research techniques are used during the courses to get feedback from the students. The Compass Assessment Test was used as a post-test in the STARS block. Pre and post essays are requested from students to see how well students can integrate their learning. Students are being tracked after they complete a clock program to gauge their subsequent success in college.

Students' Feedback / Response to this Best Practice:
Students have responded positively to Learning Communities. Enrollment, participation, and retention have been good. Classroom feedback is very positive. Students say that they like the supportive environment and the chance to get to know students and instructors well. They feel they learn better when they see connections among subjects and when they have larger blocks of time to get involved in their learning.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Multimedia Materials for the Classroom

Key Concept Met: #4. Learning occurs in a flexible and appropriate environment. (and #1)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
learning can occur in many environments with many materials

Innovator's / Contact's Name: Dr. Betsy Cooper, Biology Faculty

College: Glendale Community College

Brief Description of this Best Practice:
Betsy lectures via multimedia, including having her notes on a projection screen, using animation and laser discs to illustrate concepts. She is developing computer experiments for the students to do. She is "employing a lot of video that we're making ourselves". The videos are used in computer simulated experiments which allow students to apply information learned in class to new situations, and exercise their analytical skills and carry out the scientific method.

Background / History of this Best Practice:
Betsy indicates that she got started because she wanted to use computers in her teaching. She has written on Apple, and DOS, using Pilot, Toolbook, and now Authorware. She started her efforts in 1985 when she learned about computers in the district faculty computer literacy program.

Resources Involved for Support of this Best Practice:
Time is the major resource needed to pursue the use of development of multimedia materials, and quite a bit of training. Betsy states that she also 'picked a lot of people's brains'. She is very involved in every step along the way in materials development, using what she calls 'brute force programming'; it works, but it may not be the most concise, most efficient way to get the results she wants. "If I didn't try or do the work myself, I'd be frustrated." She had to learn the video camera, and to digitize video. Betsy also indicates that she had release time and team support to get this work done. This support includes financial support, design support, and programming support.

Extent of this Best Practice:
Betsy indicates that she "has only about one third of her lectures on computer". "Developing labs will be endless. I would like to have an application experience for every lab of the semester. This will take a long time."

Outcomes of this Best Practice:
Multimedia materials provide other ways of learning for the students. The students are visual learners, so the videos really help. These materials really seem to help them understand it better. Students will often use some of the programs over and over again beyond the assignments.

Evaluation of this Best Practice:
Betsy indicates that she "always asks the students ways to improve the materials, and incorporates their ideas into the materials. I always have students do evaluations on anything I produce." Betsy raises an honest concern about some of the multimedia materials being so close to TV, that the students do have fun, but sometimes may not think about the content.

Students' Feedback / Response to this Best Practice:
The students like the multimedia materials; they learn a lot, and ask "can we do more than one." From the first time the students use a part of the materials, they are excited. One student said "it was worth the price of the course to use this (computer) program."

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Applying Multiple Assessment, Multiple Intelligences Theory and Choices and Options for Authentic Teaching and Learning in Higher Education

Key Concept Met: #4. Learning occurs in a flexible and appropriate environment. (and #1)

Analysis:

This Best Practice meets or aligns with the stated key concept because:

"If college students are provided *choices* and *options* in applying 'how they are smart' their *motivation* and desire to *authentically* learn will go beyond our (teacher and learner) expectations." (R. Diaz-Lefebvre)

Innovator's / Contact's Name: Dr. Rene Diaz-LeFebvre, Psychology Faculty

College: Glendale Community College

Brief Description of this Best Practice:

Rene is incorporating Howard Gardner's work in the seven multiple intelligences into the college curriculum. Rene has just conducted a major research project on multi-assessment and multiple-intelligences. His study included quantitative and qualitative data in his work with students in Introduction to Psychology classes. Now he is uses this approach throughout the Psychology curriculum.

Background / History of this Best Practice:

Rene has been studying MI theory for eight years, has studied at the Institute for the Study of the Theory of MI at UC-Riversides, and has met with Dr. Gardner, who is totally supportive of Rene's work in applying MI into a college curriculum. Rene is also working with Project Zero, a research team at Harvard interested in investigating the development of learning processes in children and adults.

Resources Involved for Support of this Best Practice:

There needs to be acknowledgment, commitment, and support for time to work in this best practice. The need for time includes not only the initial research, but also the ongoing work and follow up. Rene stresses the need for administrative support, which he has received from GCC.

Extent of this Best Practice:
The pilot study conducted during the 1994-95 academic year has provided valuable quantitative and qualitative data on the 76 students. In addition, dialogue has helped in the exploration of multiple assessment alternatives for students to select from. The learning options that have been developed - incorporating the seven intelligences - are applicable to any discipline. Rene is presenting his research findings at conferences and workshops all over the country GCC is one of the contact schools in higher education applying MI theory into the curriculum

Outcomes of this Best Practice:
Rene points out that "In addition to lecturing and paper/pencil testing, let's explore the possibility of offering students the choices and options in helping them learn the material. Higher learning is so *deeply grounded* in two types of intelligence, verbal/linguistic (reading, writing and speaking) and logical/mathematical reasoning (use of numbers, calculations, computers) that perhaps we have limited our students in not only realizing they are *smart* in different ways; we have stifled *authentic* teaching and learning, motivation and desire to learn and being creative."

Evaluation of this Best Practice:
Rene has empirical data, and stresses the importance of a research base for innovations. He pre-tested the students with a test of Multiple-Intelligences, and uses the results to suggest their dominant intelligence. Then he presented the students with learning options and choices designed to meet their intelligences. He continually evaluates the students' learning.

Students' Feedback / Response to this Best Practice:
The students response to this approach is that it is "incredible" and "wonderful". Rene gives them a complete survey that asks them to respond to the amount of time they spend, their thinking, reading, studying, doing Psychology. Do they feel they have an adequate foundation in Psychology? He asks why they are motivated to do the amount of work that they do?
The students respond that they "totally do believe this should be incorporated into other college classes." They give specific suggestions how this can be done!

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Collaborative Learning Classroom

Key Concept Met: #4. Learning occurs in a flexible and appropriate environment.
(and #1, #2, #3)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
Janet believes in the importance and benefit of flexibility in teaching and learning.

Innovator's / Contact's Name: Janet Reckmeyer, Computer Information Systems Faculty

College: Glendale Community College

Brief Description of this Best Practice:
Janet states that her "emphasis has been on establishing a learning mode in class that encourages team learning by using Collaborative Learning techniques. What I really try to do is use a variety of methods to hit everybody's learning styles."

Background / History of this Best Practice:
Janet explains that she has been interested for a long time in trying different things to help her students learn better. A few years ago she attended a Collaborative Learning conference, and found that it made a great deal of sense to her. "It showed me some things that said 'hey, I can do this.'" It showed team learning with accountability built in. Since then, she has been implementing and refining several of the techniques.

Resources Involved for Support of this Best Practice:
Janet believes that a strong support group is very important for teachers interested in implementing Collaborative Learning. This can facilitate a sharing of ideas, what worked and what didn't. Also, it would be very helpful to have a mentor who was good at using collaborative learning. That is why it is valuable to have workshop available; this are critical because they give a foundation on which to build. Financial resources are needed for a mentor program and for incentives. She points out that "it takes a lot of time to be a mentor".

Extent of this Best Practice:
Janet uses Collaborative Learning in all of her CIS 105 classes

Outcomes of this Best Practice:
The major outcome is a lot more active participation, and no 'sleepers' in the back of the classroom. Janet points out that "this is the biggest impact There is a lot more participation from a wider variety of students, more people talking within the groups and to the total class." Janet has found that the atmosphere is a collaborative learning class is easier, more conducive to leaning.

Evaluation of this Best Practice:
Janet uses ongoing assessment by distributing forms asking 'how did the activity go? what did you like? what didn't you like?' She also has the students complete an 'exit interview' paper asking for feedback on the entire class. This includes suggestions for the instructor, and response to the collaborative learning teams.

Students' Feedback / Response to this Best Practice.
There is a large mix in the comments and response from the students. Many of the students like the camaraderie of the team who often becomes friends outside of class. Other students are not as comfortable with teams, and Janet points out that this is why it is important to not use only one teaching and learning approach. She likes to 'keep the plate spinning'.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Using Computers as a Tool in Teaching Mathematics

Key Concept Met: #4. Learning occurs in a flexible and appropriate environment.
(and #2)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
this statement was the most all encompassing concept that reflects the teaching and learning that can occur when you use computers as tools for teaching mathematics.

nnovator's / Contact's Name: Larry Burgess, Math Faculty

College: Paradise Valley Community College

Brief Description of this Best Practice:
Larry is using computers and calculators and math software (specifically MAPLE) to teach Math. He is taking advantage of the technology and software available, by using these to do some of the more 'tedious' jobs related to computation. He is using computers to teach Math in courses that range from pre Calculus to third semester Calculus. Larry believes that this enables students to see math concepts more dramatically, because they can get past the computational work. This gives them time for the much more interesting problems. This approach is following the lead of the Reform Mathematics movement around the country.

Background / History of this Best Practice:
Larry indicates he had colleagues who were true leaders in the Reform Math movement. Discussions with these colleagues and reading journal articles has encouraged Larry to be an early adopter of these tools, which he has been using for three or four years in the classroom. He points out that PVCC was one of the first places in the country to use the Harvard Calculus Consortium textbook, which was developed for Reform Math

Resources Involved for Support of this Best Practice:
The primary resources are computers, 'some place to put them', and the software. Training and a mentor are needed for the instructors who wish to pursue these tools. Larry points out that "this can be a lot more threatening to the instructor than seeing teaching as sharing your vast knowledge with the students. You will run into times when you are unsure, when you have to say

that you don't know". The faculty use the team teaching approach to effectively use these tools. Additional resources include time, and a need to know all of the different calculators that are available. Larry indicates that "it is almost overwhelming, the amount of material you have to absorb."

Extent of this Best Practice:
The time is coming where everyone is going to have to 'face' the use of computers in teaching Math. The computers are getting smaller and the calculators are getting bigger; they are coming together in what they can do. Computers at this point are more powerful than a graphing calculator, but much development is underway. These tools keep leading many of the changes in Reform Math.

Outcomes of this Best Practice:
Students are seeing Math concepts more dramatically. They are increasing their writing skills and their ability to work in groups, because these are skills they use when working on the computers. On a nation-wide basis, students who come out of Reform Math classes tend to be as good as traditional classes in computation, and to be better problem solvers, not as intimidated by Math, and more creative. One student was hired as an Engineering assistant because of his knowledge of computers.

Evaluation of this Best Practice:
They are no long range studies yet, because this has not been going on long enough. The students do complete math assignments and tests. Larry asks them questions regarding their use of computers, regarding the helpfulness of the computers in their learning. The students write evaluations and reflections. Many evaluation comments are anecdotal.

Students' Feedback / Response to this Best Practice:
Larry has asked students who have used computers to learn math, to reflect on what they liked. These students replied: "writing the summary statements", "the group tests", "learning so much from their classmates", and "the combination of computers and calculators." One student responded that she "enjoyed writing up the problems because this required me to know every angle of the problem." The students feel that they can actually use some of the math they have learned.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Multimedia Biology

Key Concept Met: #4. Learning occurs in a flexible and appropriate environment. (and #2)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
the environment, and the tools in the environment, are key to learning.

Innovator's / Contact's Name: Gary Quick, Biology Faculty

College: Paradise Valley Community College

Brief Description of this Best Practice:
Gary uses multiple technologies to present the information in several different Biology classes, including BIO 181, 182, and 160. Gary indicates that "my favorite use of technology is in the labs and classrooms, where I have an ELMO projector and "big-screen" TV. The ELMO allows me to bring external sources, such as laser discs, VCR and microscope together. I can then display the images on the 48" Toshiba TV or large screen Electrohome projector system. Within the ELMO there is a TV camera that focuses down on a writing surface and transfers that image to the TV. I can then switch easily between the various inputs to present my materials. This year we are going to be experimenting with feeding computer derived signals through the system to add to its capabilities."

Background / History of this Best Practice:
When Gary started at PVCC six years ago, he worked with a colleague who was also interested in computers and multimedia.. Since then Gary has constantly experimented and develop more uses of multimedia for teaching and learning Biology. He "enjoys playing with the technology and with the possibilities it generates". He has recently started experimenting with a presentation style that enable him to project written notes along with the laser disc, video and other commercially produced sources. He also copies his lecture notes in a small booklet for his students to use as a study aid. These are distributed after the lecture topic has been fully covered in class.

Resources Involved for Support of this Best Practice
The use of multimedia is very definitely time consuming. Preparation time is needed to learn the technology. In order to make really effective use of the multimedia, the faculty member needs to

be familiar with many sources that can help explain or demonstrate the lesson content. Faculty could use assistance in preparing computer graphics, instruction in using various graphics/paint/presentation programs, as well as help with duplication or scanning materials. He also notes the need for financial resources for the hardware and software.

Extent of this Best Practice:
Gary believes that "the future as we conceive it is hard to limit; we don't know where we are going to be in five/ten years." He adds that "we are on the brink of a third great revolution in education dealing with the presentation of materials. The first revolution was 'sitting under a tree or around a fire' . The second was the printing press. And now we are beginning a totally different process. The student can get in there and direct his own learning via the interactivity presented by the computer."

Outcomes of this Best Practice:
The use of multimedia and computers keeps the students interested and involved. The students are learning the content in a different way (more visual and interactive), and seem to be retaining it better. They are now able to answer probing questions such as "you tell me what happened" after watching easily accessed video or laser disc clips.. They seem to be learning with more efficiency.

Evaluation of this Best Practice:
There are no formal studies or evaluation going on at this point. The students do complete the course assignments and tests.

Students' Feedback / Response to this Best Practice:
The students seem to enjoy the multiple technologies. They also like Gary's notes on the large screen, where he can zoom in or out and focus their attention

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Techno-Tools in Math

Key Concept Met: #4 Learning occurs in a flexible and appropriate environment (and #1)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
the key is the emphasis on flexibility. The definition of the learning environment is expanded.

Innovator's / Contact's Name: Joyce Janiga, Math Faculty

College: Paradise Valley Community College

Brief Description of this Best Practice:
Joyce uses technology to increase the teaching and learning in her Math classes. The students use graphing calculators as a Math base. These are tied to the CBL, the Calculator Based Lab. The calculators can be easily carried around; they store information, and do programs. The CBL is a separate unit, in which you put in a series of probes into it, and it hooks up into their calculators. The students can take these into the field. This gives students a valuable link to the computer. Joyce indicates that she is using these in Finite Math, Brief Calculus, Trigonometry, and College Algebra. Joyce points out that these techno-tools "enable me to focus on the students' understanding rather than on their arithmetic skills."

Background / History of this Best Practice:
The CBL is new for Joyce this semester. She participated in a training institute, and now consults for the College Board. She became interested because of the application to problems in Finite Math. "To do an application by hand would take too long," Joyce points out. "Now we can answer application questions in such a way that we can model real like situations."

Resources Involved for Support of this Best Practice
The key resource is to have a CBL for each group of two to four students. Then you need the graphing calculators, and the graph link to the computer. Training is essential. Joyce wrote a grant to further this work, "Teaching Teachers Technology", and has found that materials and resources from this are very helpful.

Extent of this Best Practice:
Joyce does a workshop on the technology in class with her students. She also works with the tutors in the Learning Assistance Center. She is looking into filming the training, and believes that "the future is unlimited."

Outcomes of this Best Practice:
Joyce indicates that "one important outcome is that using this technology saves us time. This gives us good graphing identification instead of always plotting by hand. This increases skill in analyzing the curve and drawing conclusions. The students are learning to ask more indepth questions, and learning to really probe better. They can actually see what is happening." In addition, students are working together more, and helping each other. The students who have been out of school for awhile can really see the difference in their learning; now they can see where they are going, and get the big picture.

Evaluation of this Best Practice:
Assessment includes having the students write and describe what is going on. Writing assignments fit into the Reform Math movement. Standard assessments have a graphing calculator component. The use of technology enables assessment of depth of knowledge and understanding, rather than rote level knowledge and number crunching. Joyce evaluates herself informally and formally through students' evaluations.

Students' Feedback / Response to this Best Practice:
Students love the graphing calculators. This technology saves them time, and becomes a real tool to doing things more efficiently.

Maricopa Community College District - Summer 1995

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject: Distance Learning

Key Concept Met: #4. Learning occurs in a flexible and appropriate environment.
(and #2)

Analysis:
This Best Practice meets or aligns with the stated key concept because:
the students can determine when and where they are going to learn. Charlcey points out that when "we develop a course, we look at how we can best deliver this to meet or exceed the course competencies." Then, the students becomes an active learner through collaboration with the instructor. There is strong shared responsibility

Innovator's / Contact's Name: Charlcey Brabec, Coordinator of Educational Programs in Distance Learning

College: Rio Salado Community College

Brief Description of this Best Practice:
Distance Learning is a program that offers a wide range of course offerings, leading to an Associate of Arts degree, that use various modalities to deliver the courses. These modalities include Audio, Video, Television, Print-based, Mixed Media, Teleconference, VCN, and Image Net. The students can complete these courses in the convenience of their homes, at any time. The key characteristics are flexibility and convenience and a competency based curriculum. Students communicate with faculty through many options, including a voice messaging systems, phone, Teleconference sessions, and mail. Charlcey points out that "an innovative feature is the utilization of mixed media. The courses are not dependent on one mode of delivery. This helps meet the competencies and students' learning styles "

Background / History of this Best Practice
When Rio Salado Community College began in 1978, a united effort was made to start a distance learning program throughout Maricopa County This was coordinated by Rio Salado Community College. As the college has grown, the course offerings have expanded, and the use of modalities has increased. International offerings began seven years ago These courses are taught by full time and part time faculty.

Resources Involved for Support of this Best Practice:
Many resources are needed to support Distance Learning. Departments that give operational support include Computers, the Information Processing Center, Media, the Mailroom, and the Print Shop. Other resources include capitol support, meeting upfront costs, licensing costs, video duplication costs, and course development / curriculum costs. Student Services is a very valuable resource for the Distance Learning Program, by providing advising, tutoring, help hotlines, and testing.

Extent of this Best Practice:
Over fifty courses are offered each semester through this program, and student enrollment is increasing. This program has a long 'track record', has achieved a fine reputation, and is still expanding. New technologies open up new possibilities, such as courses over the Internet. Charlcey indicates that "the borders are becoming undefined." Recent components of Distance Learning include voice messaging for the faculty, tutoring, a tutoring hotline, counseling through the Electronic Forum, and increasing student services support the focuses on intervention. A Flex start format was piloted in Summer 1995 that was very well received by the students. It gave the students more control and more responsibility

Outcomes of this Best Practice:
In addition to completing their courses, there is much evidence of student success and achievement. Many students return to take additional Distance Learning courses. They can work toward their associates degree because they cannot attend, or choose not to attend, traditional courses. Distance Learning give them an option and meets their needs. Students can now get an entire degree this way. This program has given many students the opportunity for personal success stories.

Evaluation of this Best Practice:
Qualitative evaluation comes from student feedback and faculty feedback. Quantitative feedback is collected and analyzed from enrollment and retention data, from student course evaluations, and from adjunct faculty evaluations. Faculty put considerable effort into competency-based instruction and testing. The program has in-person midterm and final exams.

Students' Feedback / Response to this Best Practice:
Students' feedback to this program comes from letters and phone calls, as well as from their course evaluations. Students have commented that the course materials packets are extremely user friendly, and that the courses are organized to be 'student-focused'. Student's appreciate the convenience and flexibility of Distance Learning courses and frequently comment that 'without this program I wouldn't be able to take classes'

Data Collection:

Current MCCD Best Practices in the Desired Learning Paradigm (as described in the Maricopa Roundtable Policy Perspectives Draft)

Best Practice Name, Title, or Subject Electronic Counseling

Key Concept Met: #4. Learning occurs in a flexible and appropriate environment.

Analysis:
This Best Practice meets or aligns with the stated key concept because:
learning is not only promoted in the classroom. learning is available everywhere through support systems.

Innovator's / Contact's Name: Beatriz Cohen. Counseling Faculty

College: Rio Salado Community College

Brief Description of this Best Practice
Electronic Counseling is a counseling service available for computer conferencing students. It is a support system for distance learners. And, Beatriz indicates that "it is an intrusive approach". She writes to them formally three times a semester In the first letter, she asks them if they would like to use counseling services, gives them information about contacting her. The second letter asks them if they are ready for their midterms exams, if they have any problems, and if they need tutoring or other resources. The third letter asks if they are ready for the final exam, if they have planned courses for their next semester, and if they need any help. Electronic Counseling includes the electronic forum, (bulletin boards for study tips, job hunting skills, career exploration etc), letters, and private mail.

Background / History of this Best Practice
Beatriz has been using Electronic Counseling for three years At that time she had a desire to expand counseling services at the college, but realized she could not expect the distance learning students to come to a counselor if they could not come to class. Electronic Counseling offers a compromise, a different way of counseling It combines well with phone calls. In fact, Beatriz has found that some students are more talkative when sending messages this way.

Resources Involved for Support of this Best Practice
Students have to have access to the Electronic Forum and an account This program also needs an open-minded counselor. Beatriz indicates that she has to check for messages every day, "waiting for students (like her friends) to tell her something " She doesn't focus on the obstacles, rather on

what the opportunities may be.

Extent of this Best Practice:
This program is expanding, and is planned for students in the OE/OE Computer Labs. They will be some difficulty with the three structured letters, but a welcome letter could still be sent, and the other letters will be modified. This is being piloted this semester with one course. Additional plans include adding an academic advisor to this program

Outcomes of this Best Practice:
Electronic Counseling helps to address the counseling needs of the students in these courses. It also provides career guidance, and helps to widen their view of careers. It contributes to retention of students and increases their use of tutoring services

Evaluation of this Best Practice:
Quantitative measure haven't been used Anecdotal and unsolicited feedback confirm the value of Electronic Counseling.

Students' Feedback / Response to this Best Practice
Students who use Electronic Counseling find it very valuable. They specifically appreciate the quick response, because a response *can* be left, where phone calls often go unanswered.