



THE ASSIST ARTICULATOR

A PUBLICATION OF THE ASSIST COORDINATION SITE

VOL 1. No. 1 SEPTEMBER 1992

FROM THE DIRECTOR

Welcome to our first edition of *The ASSIST Articulator*, a quarterly publication devoted to the management and implementation of ASSIST.

When we started ASSIST back in 1985, we all struggled with difficult, immature software and a severe lack of support services. Over the past few years, however, we not only progressed to where we now have solid software which continues to evolve to fit our changing needs, but also have in place responsive support services from the Coordination Site.

The energy participating schools have focused on building the database has moved us past another important milestone and clarified our next goal. Now that we have built and know how to maintain a solid statewide database, we need to set our sights on developing the utilization of ASSIST in student services. We hope to help with meeting that goal by working with you on developing effective delivery systems and introducing ASSIST to end-users.

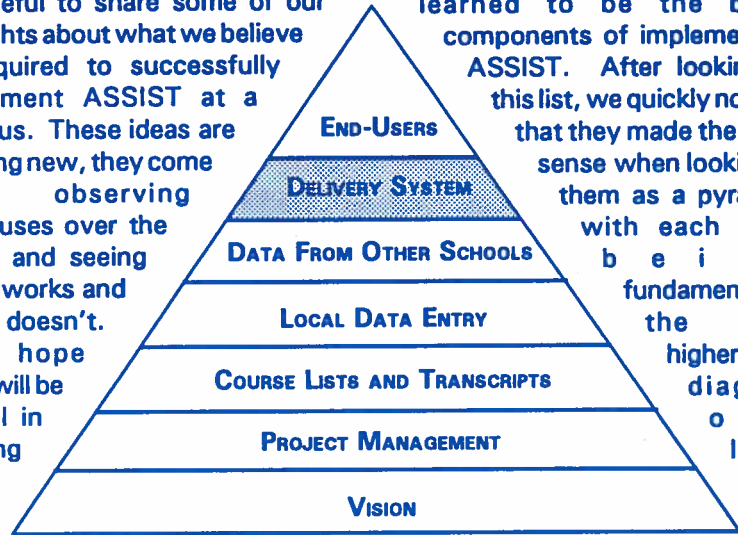
Trial and error has taught us lessons we can pass along about the major components a project like ASSIST requires for successful implementation and satisfied users. We'd like to share these with you. To kick off this new publication, we'll summarize what we've learned and use it as a base for the next steps we've identified for continuing to move ASSIST forward.

ASSIST: COMPONENTS FOR SUCCESS

BEFORE we start addressing the nitty-gritty details of ASSIST in this newsletter, we thought it might be useful to share some of our thoughts about what we believe is required to successfully implement ASSIST at a campus. These ideas are nothing new, they come from observing campuses over the years and seeing what works and what doesn't. We hope they will be useful in helping you to

PYRAMID OF POWER

In preparing for this edition, we compiled a list of what we've learned to be the basic components of implementing ASSIST. After looking at this list, we quickly noticed that they made the most sense when looking at them as a pyramid, with each layer being fundamental to the next higher. This diagram outlines the



identify where your school is and what steps lay ahead.

components and their relationship to each other.

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Over the next 12 months, with your involvement and support, we'd also like to focus regional activities on these next steps.

On a different note, please join me in welcoming Leslie Metour to the ACS staff. As our new technical writer, Leslie will develop

full user-documentation (YEAH!!), along with newsletters and other public relations material. Please forward any suggestions regarding this publication to Leslie at the ACS or via e-mail at "leslie@fs2.assist.uci.edu".

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A DELIVERY SYSTEM

In order for any campus to realize the potential of ASSIST, counselors, students, and other staff and faculty need to have access to computers which run ASSIST. Unfortunately, since many of us are unfamiliar with the variety of computer configurations which could deliver ASSIST to our end-users, developing and carrying-out a detailed plan for access to ASSIST throughout the campus can be a difficult task. This article describes one strategy, found by many campuses to be effective, for developing a delivery system.

REVIEW YOUR CAMPUS PLANS & RE-EVALUATE THE USES FOR ASSIST ON YOUR CAMPUS

Before you begin planning for access to ASSIST, it is critical that you review your plans for using ASSIST. Make sure that you understand the wide variety of capabilities that ASSIST can provide, especially as new capabilities have evolved over the last several years (i.e.; access to the UC Transferable Course Agreements, IGETC lists, etc). You may want to have a discussion with the Coordination Site about precisely what ASSIST can do and what kinds of support are needed to effectively utilize certain features.

As you develop plans for which components of ASSIST will be used on the campus, consider the variety of potential users and the specific benefits which ASSIST can provide them. For example, if your academic counselors schedule appointments in advance, perhaps they would benefit from having Progress Checks run automatically the previous night based on some key information that could be collected when the student schedules the appointment.

If your campus provides paper copies of articulation agreements to a large number of users throughout the campus, consider how these users would benefit from electronic access to that data and how the articulation officer might benefit from a more manageable distribution mechanism.

If your campus has a sizable transfer population, perhaps students could benefit from direct access to the Campus Information and Articulation Subsystem components of ASSIST.

Make a list of all potential users and areas of the campus where ASSIST could be accessed.

MEET WITH YOUR MIS DIRECTOR

The next step in developing a delivery system is to meet with your campus or district MIS director. MIS directors play an important part in the ASSIST team since they are directly responsible for current and future computing capabilities at the campus.

The primary objectives of this meeting are: 1) to review your plans for uses of ASSIST on the campus, 2) identify current computing capabilities on the campus to determine areas of any immediate access to ASSIST, and 3) determine a plan for providing access to ASSIST in any areas where ASSIST is not currently available.

When you present your plan to your MIS director, be sure to find out what kind of computer access all of the potential users currently have. Find out precisely what kind of computers each person has and how these computers are connected to each other and/or to the campus central administrative computers (if at all).

If the current computing environment is not sufficient to meet your needs, ask about the long range plans for meeting your needs. You might consider asking someone from the Coordination Site to attend this meeting. The Coordination Site staff would be able to answer questions about any specific requirements of ASSIST, provide information about our future technological directions and help brainstorm as to creative ways to effectively meet your needs using existing technology. Do not be discouraged by current constraints in technology and/or resources. There are ways to utilize ASSIST within most environments.

ESTABLISH A PLAN

Now that you have compiled a list of potential users and are aware of their current computing capabilities, you are

ready to develop a detailed plan for providing access to ASSIST.

Consider these various common scenarios as you establish your plan: If your end-users only have access to terminals connected the campus mainframe (or do not currently have any computer access), you will want to examine the possibilities of purchasing IBM compatible PCs and connecting them via a Local Area Network (LAN).

If some end-users currently have PCs, but they are not connected to one another, you will want to investigate the purchase of a LAN. Keep in mind the power and capacity of these individual PCs to determine if they will work efficiently with a LAN to provide access to ASSIST.

If your end-users already have PCs on a LAN (you're lucky), you will still want to ensure that the power and capacity of the file server and PCs are providing good response time when running ASSIST.

If your plans for ASSIST include use of the Progress Check function, you will need to determine the most efficient method for getting transcript data from the campus administrative computer system. A mainframe may be directly connected to a LAN via a campus network or may require additional connections from PCs to the mainframe separate from the network.

The overall design of your campus delivery system is very important and must take into account other aspects of the campus computing environment. This will help to ensure that it receives adequate support and upgrading over time.

Build testing phases into your plans. Also build in time for end-users to get acquainted with any new procedures and with the software. Introducing ASSIST to the end-

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TO LAN OR NOT TO LAN :

ANSWERING THE STAND - ALONE VERSUS LAN QUESTION

One of the layers of the ASSIST pyramid, the delivery system, is based on the availability and functionality of the various hardware and software required to allow end-user access of the ASSIST database. There are many ways to implement an effective delivery system depending on the resources available. Here is a brief look at the various hardware configurations that can be used to implement ASSIST.

STAND-ALONE PERSONAL COMPUTERS

Personal Computers vary in speed and power. Some PCs have better processing capabilities than others. A 286 PC is based on the 80286 microprocessor chip which ranges from 8 MHz to 16 Mhz in speed. While these numbers don't mean much to most people, in the initial stages of ASSIST, 286 PC's were considered to be the ideal machine. Today, there are much more fast and powerful machine such as the 386 PC and the 486 PC.

At the minimum a 286 PC with 640 kilobytes of RAM (random access memory) and 300 megabytes of hard disk space is required to utilize and maintain the ASSIST database. Currently the ASSIST database is approximately 170 megabytes in size. 300 megabytes of hard disk space are recommended for future growth of the database.

Although 286 PC's can run most software including the ASSIST program, 386 and 486 PCs have greater advantages other than its quick speed. With a 386 or 486 PC, multi-tasking programs like Deskview or Windows can be used to run several ASSIST sessions simultaneously. For example, using Windows, in one area of the screen campus information can be displayed, in another area of the screen an

articulation agreement can be displayed, and in a third area of the screen the results of the progress check can be displayed.

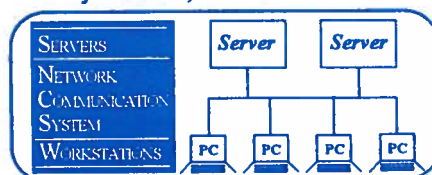
DUMB TERMINALS

A terminal differs from a PC because it cannot process or store information by itself. All data is processed by the mainframe or the minicomputer which it is connected to. PCs have internal processors and hard disks. A terminal is a "dumb" machine which is used mainly to display and input data to and from the host computer. Terminals cannot be used to run ASSIST since, in most cases, ASSIST cannot currently run on mainframes and minicomputers.

LOCAL AREA NETWORKS

When you boil things down to the essentials, a local area network (LAN) has only one basic function: to move information among shared computers on the network (called servers) and the PC workstations of the network users. More specifically, a LAN is a group of computers which are connected to each other with special cabling to share resources such as hard disks, laser printers, and other expensive devices.

The components of a network can be divided into two categories: hardware (file serves, PC workstations, a network communication system, and cables) and software (the network operating system such as Novell Netware, 3Com 3 + Open, or Banyan Vines).



THE FILE SERVER: is a special, more powerful computer on a network that can be accessed by all network users. This computer contains special resources such as hard disks and printers, and services requests from workstations to use those resources.

The file server acts as the brain of the LAN. All information is stored in the file server. Any devices attached to the file server can be shared by any user connected to the network.

In most cases the file server is a 386 or 486 PC which can operate at high speeds. File servers have large and fast hard disks along with large amounts random access memory (RAM).

Network users can store files to and retrieve files from file servers as if they were using their own local hard disks.

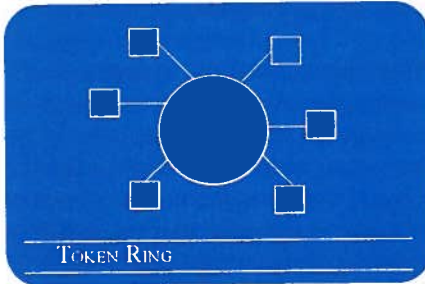
WORKSTATIONS: Connecting a PC to a LAN does not dramatically alter the way the PC is used. A LAN-connected PC merely has more places from which it can retrieve files. In most cases the workstations are a 286, 386, or 486 PC. A 386 or 486 PC is highly desirable as a workstation due to their quick processing speed and memory compatibility with local area networks.

THE NETWORK COMMUNICATION SYSTEM: When you connect computers to create a network, you install a special board in each PC and server, and then connect the boards together with special cabling. This board is called a network adapter, or network interface card. Many different types and brands of network adapters are available, but they all perform the same function, enabling you to transmit large amounts of data at high speeds between computer.

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LANs CON'T

There are different types of network communication systems. Ethernet, Token Ring, and ARCnet are commonly used types of network adapters. They vary in terms of the type of cable used and the method by which they transfer data. Ethernet is the most common and inexpensive network communication system.



THE NETWORK OPERATING SYSTEM: The complex processes that take place on the network communication system have to be directed by some form of logic. The hardware components need a set of instruction to follow. Just as the PC needs an operating system (like MS-DOS) to work properly, your network needs one also.

The network operating system (NOS), is designed to perform two important jobs. It controls the operation of the file server, and it cooperates with MS-DOS on the PC workstations to make network resources easy to use. The NOS manages file storage, file retrieval, network printing, and memory utilization.

Some of the most common NOS are Novell Netware, 3Com 3+Open, Banyan Vines, AT&T Starlan, and DEC's DECnet.

ASSIST ON A LAN

In order to run ASSIST on a LAN, the file server will need at least 600 megabytes of available disk space. This will hold two copies of the ASSIST software and database. One is for end-users to access displays and run progress checks, while the other is for building, maintaining, and testing the database.

ASSIST is compatible with most network operating systems. If you have a NOS different from the ones listed, call the Coordination Site to find out if it is supported.

The primary benefit to running ASSIST on a LAN is that users can access a single, central copy of the ASSIST software and

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As you've probably figured out by now, one of our top priorities is getting more counselors and students using ASSIST. We all know what it takes to build the database, but some campuses need some help in developing delivery systems and introducing ASSIST to their counselors. In the past we've seen the regional group provide a more intimate,

friendly setting for developing local plans and solving problems related to building the database. We would like to see that same formula applied to the next steps many campuses are taking.

We hope this new approach will re-energize the regions as a productive vehicle for moving campuses forward.

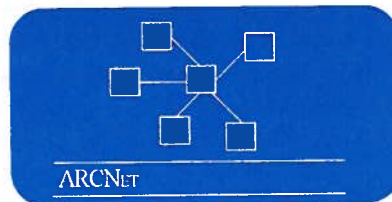
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database. This avoids having separate copies of the software and database on each user's PC. This saves both space and time, and ensures that each user is always using the same version of the software and database.

ASSIST can be configured so that different PC workstations on the LAN can access different parts of ASSIST. For example, the PCs in counseling can be configured to display only articulation agreements, while the PCs in the computer lab can be configured to display campus information and articulation, and the transfer center can be configured to perform progress checks as well as display articulation and campus information.

GETTING DATA FROM THE MAINFRAME

Personal computers have the ability to retrieve data, such as transcripts, from your campus mainframe computer. PCs can be connected to the mainframe computer directly via asynchronous communication lines or through a LAN.



Every stand-alone PC that runs ASSIST is equipped with an asynchronous communication port. By using this device (sometimes with a modem) along with

appropriate terminal emulation software such as *Kermit* or *Reflection*, transcripts can be easily transferred from the mainframe to the ASSIST PC. The disadvantage in using this procedure (versus a LAN connection to the mainframe) is the length of time it takes to transfer large files. The advantage is that there is little cost related to this procedure.

Many campuses already have networks implemented which allow transfer of data between PCs and mainframes. Data files can move at a much faster rate on a LAN. ASSIST can be configured to grab and process transcript data interactively while running progress checks.

CONCLUSIONS

As you can well imagine, designing a LAN is a very difficult and confusing task. Sometimes different NOS require different network adapters. Sometimes you can mix and match. Sometimes 286 PCs are too slow and can't hold enough RAM to work on a LAN. And when it comes to cabling, the choices get really confusing.

This is why your MIS department gets so concerned when people talk about establishing a LAN. They usually understand the complexities and it's their job to provide support and ensure that any new developments fit in with other technological plans at the campus.

While this is the wave of the future, tread carefully and involve the whole campus team when tackling this exciting technology.



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REGIONAL HISTORY

ONCE UPON A TIME: campuses participating in ASSIST began meeting in regional groups based on their geographic proximity. Regional meetings provided a forum for ASSIST participants to meet with each other and support one another in implementing ASSIST. This facilitated discussions about problems they encountered or successes they had in building the ASSIST database. In addition, it gave participants an opportunity to talk in person with members of the Coordination Site.

Regional groups met every other month and served the project very well for reaching the goal of building the database. The ASSIST database has a substantial amount of usable information, is continually expanding, and we need to ensure that we don't let the data maintenance fall behind.

NEW REGIONAL DIRECTION

NOW IS THE TIME: to aim beyond database maintenance and toward utilization of ASSIST in our support of student services. And, we believe the regional structure will continue to provide an effective mechanism for helping us achieve this next goal.

EFFECTIVE USAGE OF ASSIST: requires campuses to (1) have the data end-users want, (2) have a means of delivering ASSIST to end-users, and (3) introduce ASSIST to those end-users in a positive, practical, and meaningful manner. During the next year, we would like to focus regional activities by concentrating on the latter two issues. Our aim is to provide direction and share strategies used by other campuses. We are also dedicated to helping campuses develop and carry-out plans, and furnishing support for solving problems as they arise.

ACTION ITEMS

1st Step: We would like Fall regional meetings to focus on the design of delivery systems. To begin, we have enclosed a *Delivery System Survey* for each of the participating community college managers to complete and return to the Coordination Site by October 9. At the upcoming regional meetings, we will review the plans for each college in the region, compare these plans with their current computing capabilities, and discuss what is needed to meet stated utilization goals. Workshops are also planned which will be aimed at providing ASSIST staff with information about the fundamentals of an effective delivery system.

Winter meetings will be geared towards the follow-up to the Fall meetings. We'll look at the progress made by each campus and identify any further help that may be needed.

2nd Step: In the Spring, we would like to shift the focus to developing plans for introducing ASSIST to end-users. We are planning to collect more information about successful strategies used at some campuses and share those ideas statewide. We will be asking for your input regarding this topic.

ASSIST REQUIRES TEAM EFFORT: and in order to improve the process of delivering student services, we need appropriate members of the ASSIST team at each campus to attend and participate in these meetings. Here's who can contribute to (and benefit from) the upcoming meetings: **Managers & Operational Staff** should plan to attend every meeting. It would be beneficial for **Technical Staff** from Community Colleges to attend both Fall & Winter meetings since they will play a critical role in helping to design and bring the delivery systems at each campus on-line. **Key Members of the Community College Counseling Staff** will obviously be important contributors at the Spring meetings.

We realize that some colleges are well into these activities while others still need to develop concrete utilization plans. However, by focusing our attention on these topics over the next year, we hope to see all campuses continue expanding the database and all community colleges introducing ASSIST into their student support services.



DESIGNING A DELIVERY SYSTEM *(con't from page 2)*

users in an effective, non-threatening manner will be key to your success. In fact, we will address this issue specifically in a subsequent newsletter.

Continue to monitor the progress of your end-users. Many managers believe that once people begin to use ASSIST, their job is done. But this is just the beginning. The system will continue to require ongoing maintenance, troubleshooting and upgrades. Continue working with your MIS director to ensure that you are always making the most out of your computing resources.

We hope this information has been useful. While this strategy sounds simple, it is not. However, with a little help and perseverance, you will be able to overcome the barriers and provide successful access to ASSIST. As you begin (or continue) to develop your campus delivery system, please use the Coordination Site resources often. We are here to help you.



CREATING THE VISION:

The most fundamental component to being successful with ASSIST is having a reasonable and comprehensive vision of what your campus would like to accomplish with ASSIST, how it will be used, who will use it, and when you would like to have it done.

The *vision thing* shouldn't be underestimated. A sound vision helps to guide all other activities and planning. If needed, develop your vision carefully. Explore the many capabilities of ASSIST and see how other campuses are using it.

PROJECT MANAGEMENT:

With a realistic vision of how you want to use ASSIST, the next step is by far the most important to your long term success. In order to implement any plan you must have efficient and dedicated management. Managing ASSIST covers every aspect of the project from building the database to involving end-users and ensuring that students benefit. In the early stages of ASSIST, project management covers (1) identifying all of the tasks required to build the database, develop a delivery system, and introduce ASSIST to end-users, (2) determining, securing, and coordinating the resources required to complete each task, (3) supervising each task, ensuring that timelines and objectives are met. Over the life of ASSIST at your campus, the management needs will continue to grow as your team grows and changes, as you continue to maintain current levels of functionality, and as you find more uses and users of ASSIST.

With a good sense of vision and capable management, the next few components relate primarily to building a usable database of information.

COURSE LISTS AND TRANSCRIPTS:

The backbone of your database is the course list data for your school. Most campuses get this information from the campus mainframe and the Coordination

Site has detailed instructions for doing this. For those few campuses who do not have this data on their mainframe, members of the ASSIST team will have to enter all of this information by hand. While this is a time consuming task, it is very critical to the rest of your data.

If you plan to use the Progress Check function in anyway, you will need access to academic transcripts on your campus mainframe. It's best to work with your MIS department early in the project to secure an efficient method for accessing transcripts. This is another area where the Coordination Site can help suggest methods that have worked well for other schools.

LOCAL DATA ENTRY:

With your course list in place, you can begin to build a database of information about your school. This begins with training from the Coordination Site. We conduct the training using your actual data, and work with you to establish a plan for completing the entry of your local campus information, articulation, and degree requirements.

After training, project management again becomes important to ensure that the database is built in a timely and accurate manner. The time it takes to build your initial database will vary depending on whether you are a community college or a university (universities have a lot of articulation to enter). But after the initial database is finished, the yearly updates become much more manageable since you can copy data to the next year and just make changes. However, problems arise quickly if building the initial database or making yearly updates are not done in a timely manner. Data entry tasks begin to build-up and it can be difficult to get back on schedule.

Once your local database is built, you can pat yourself on the back for a job well done. This is definitely the most time consuming and apparently never

ending task. When the initial data is done, it seems that it's time to work on updates for the next year. But this is what ASSIST is all about, building a statewide database of the mission critical information students depend on every day.

DATA FROM OTHER SCHOOLS:

With all of your data in place, you will next want data from other schools participating in ASSIST (especially if you're at a community college). While the Coordination Site coordinates the collection and dissemination of data from all participating campuses, many ASSIST managers work very closely with their local partners to ensure that they will get the data their users need. Many managers also work together to coordinate the extensive testing and fine tuning of their local data. Keep in mind when setting up your local time lines, that we collect and distribute the database every six months in October and April.

DELIVERY SYSTEM:

With a healthy database of information, this component relates to developing a delivery system for providing access by end-users to the extensive statewide database. At this time there are a few different approaches you can take to designing a delivery system, but most revolve around local area networking. One of the articles in this issue discusses more details about designing your delivery system.

Developing a delivery system again requires working with your MIS department. It is a task which will vary in difficulty depending on the current level of technology at your campus.

END-USERS:

Providing potential end-users with a sufficient database and delivery system will not ensure use of ASSIST. While this is the final layer in a complex plan, it requires much thought and careful planning. Many campuses have seen that users don't take to ASSIST

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immediately for a couple of basic reasons. First, many are not familiar with using computer. Second, using ASSIST often requires you to rethink how you currently do your job. End-users must be introduced to ASSIST in a way which will allow them to see how it can benefit them and what they need to do to make it part of their every day work. Without this vision, they might never take full advantage of ASSIST.

WHAT NOW:

Sharing our observations was easy, bringing it all together as a campus manager isn't, but we have a few suggestions.

If your campus is well on its way to clear vision, good management, ample data, delivery systems, and end-users who use ASSIST, keep up the good work. Call on the Coordination Site when you need help, and let your systemwide representatives know how things are going via reports and phone calls.

If you are just starting out with ASSIST, consider these components we've shared and make sure your plans and expectations are realistic.

If you are somewhere in the middle, first consider where your campus is in this picture. Examine the underlying components of vision and management and make sure these are solid. If not, maybe you have some ground work to do. Second, we would be more than happy to work with you on establishing and carrying-out a realistic plan for continuing to move forward.

In this issue of *The Articulator*, we discuss the component of delivery systems in some detail. In subsequent issues we plan to share information we've gathered about other components of this puzzle.

In the mean time, keep up the hard work, and let us know if there is anything we can do to help.



N. E. W. S. YOU CAN USE

Regional Meetings

In addition to the new focus we will be seeing in the regional groups, we have asked a few of the groups to meet together for a while to make the most efficient use of everyone's time. The Greater Los Angeles and Central Coast regions will meet together and have scheduled their next meeting for October 30 at UCLA. The Orange County, Inland Empire, and San Diego regions will be meeting together but have not yet confirmed a date and place for their next meeting.

The Greater Bay Area region will tentatively meet on either November 10 or 12 at De Anza College. The Sacramento Valley region will meet on October 9 at the Los Rios District Office.

User Group

The annual statewide ASSIST User Group meeting will be held on December 9 and 10 at the Los Angeles Airport Hilton. We are in the process of establishing the agenda and welcome any suggestions.

Coordinating Council

The next quarterly ASSIST Coordinating Council meeting will be held on November 2 at the UC Office of the President in Oakland. Please contact your segmental representative or the Coordination Site by October 16 with any agenda items for the Council to address.

Call for Data

The next semi-annual database collection deadline is Friday, October 16. All data received by that date and designated as *ready for distribution* will be included in the distribution of the statewide database in early November. Campuses who do not have data at the Coordination Site by 5pm on the 16th will not have any data included in the distribution database.

IGETC Getting Closer

On September 29 there will be a meeting to discuss the final details regarding the distribution of all 107 IGETC lists via ASSIST.

New Campuses?

The following campuses have indicated to the Coordination Site that they are in the process of developing proposals to join ASSIST; Cypress, San Diego Miramar, San Jose City, Evergreen Valley, and Columbia.

Electronic Mail

We are still collecting electronic mail addresses for all ASSIST participants. Please call Kris with your e-mail address so that we can include them in the User Directories we will distribute at the upcoming regional meetings. If we get enough e-mail addresses, we are interested in starting some discussion groups on topics such as: articulation, progress on our new environment, and bug fixes & enhancements.

YOU NAME IT - WE'LL USE IT!

Fine!.. Well, there you have it! Our first newsletter (hopefully in a long series of newsletters). Cathy, Leslie, Gil & Eric worked on the articles, and Leslie put it all together and made it look like we know what we're doing. Call Leslie with any comments or suggestions for future publications.

Help! But we're looking for a better name for this publication than *The Articulator*.

Submit your ideas of **GOOD** names for our newsletter to Leslie by October 16.

You're a Winner!! After the 16th, we'll see how we like your suggestions and the winner will get 10 California Lottery tickets (Noguaranteed winners, but if you do win the Lottery, I'm sure you'll give half to ASSIST...NOT!!!)





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PROJECT ASSIST INTRODUCES THE

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