

UniTeach 2000 & Learning Space

University of Paderborn Business Program Creates New Educational Infrastructure with Lotus Notes

Contents

University of Paderborn at a Glance

Solutions

Major areas of Notes benefits for the University of Paderborn

- A cross-platform solution for communication
- A foundation for team learning
- Support for classroom learning
- A more interactive learning environment
- A pathway to the paperless environment
- A back-end infrastructure for Web publishing
- A connection to corporate partners

What we learned

This paper comprises focus and experiences of 5 years of using Lotus Notes in the Business School at the University of Paderborn.

A joint publication of *The Workgroup Computing Competence Center @University of Paderborn, Paderborn (Germany)*, and *Lotus Education Forum (LEC), Cambridge (USA)*. Nov. 1996



University of Paderborn at a Glance

The University of Paderborn's Business Administration program is one of the most popular in Germany, with more than 4,000 students and 200 staff and faculty. To support continued growth and success, the school has developed the UniTeach 2000 program, which serves as an integral part of its vision for the future. One of the program's goals is to use leading-edge technology to aid education -- creating a comprehensive educational environment that combines on-campus education with distance learning from the workplace or home. UniTeach 2000 also allows the university to create a more efficient, paperless working environment that streamlines all administrative processes.

Challenges The University of Paderborn is one of Germany's most respected and largest educational institutions, with more than 4,000 students in its Business Administration program alone. The sheer scale of the university compounds every challenge -- from handling the paperwork created by an administrative process to providing personal attention to a large student population. For example, one faculty member may lecture to as many as 600 students -- a model of mass education that is common in Germany. However, this paradigm is difficult for close communication or collaboration between students, or between faculty and students.

To bring all members of the learning team closer, Paderborn leaders must encourage and enable new levels of communication -- while increasing the efficiency of administrative and educational processes.

University leaders measure this efficiency in many ways -- from using a school's physical resources well to reducing the inefficient flow of paper within the entire university. Each of these challenges require a new way of thinking about educating, and about running an educational institution. However, the University of Paderborn has consistently shown itself to be an innovator in both areas.

Solutions The University of Paderborn was one of the first schools outside the United States to adopt Notes, and it has now created a sophisticated Notes-based infrastructure for communication and collaboration. It has introduced Notes to the 500 students in the School of Business Computing, and is in the process of expanding use to the overall School of Business Administration. With more than five years of Notes experience, the university now uses Notes in many areas -- including the classroom and administrative areas.

The university continues to expand its use of Notes, to develop new applications crucial to the organization, and to take advantage of its built-in Internet integration.

Notes is an integral part of the university's UniTeach 2000 program, which uses technology to aid education. As part of this wide-ranging effort, Notes is used in the classroom, in administrative offices, and among university staff members.

Here are the major areas where Notes benefits the University of Paderborn

A cross-platform solution for communication

A great deal of communication between students and faculty now occurs via the Notes messaging infrastructure. E-mail meets the school's need for communication that connects all members of the educational process, including students, faculty, and others. However, university leaders are quick to point out that electronic communication is just one element of the communication enabled by Notes. "Notes creates a shared environment that allows everyone to feel as if they are part of one educational effort," says Ludwig Nastansky, dean of the business administration faculty. "With Notes, for example, we can share the lecture notes for one specific class and gather questions, answers, enhancements, annotations, and more -- all which can be communicated with the entire group via replication. That's very different than just sending an E-mail.

Notes fosters the collaborative environment that is at the heart of any educational effort. It helps combat the inherent isolation of large class sizes by enabling students to work efficiently on a wide range of projects. It also allows all students to participate in class discussions -- a physical impossibility in a traditional lecture hall filled with 600 students. Notes gives all students fast access to faculty, to fellow students, and to class resources. The result? They draw upon these resources more to aid their own learning.

"Notes creates a shared environment that allows everyone to feel as if they are part of one educational effort."

A foundation for team learning

With Notes, students and faculty no longer have to be in the same location at the same time to collaborate. Notes creates a distributed learning environment where anyone has the opportunity to contribute -- establishing the team learning that university leaders feel is crucial to education. "With Notes, everyone can do creative work at home, at the workplace, or from wherever they happen to be," says Nastansky. "Then these contributions are collected automatically into Notes databases. So when the class meets at a later date, we can examine this content that we've created together as a team. It creates a truly different model for education, one that involves everyone."

"Students and faculty no longer have to be in the same location at the same time to collaborate."

Support for classroom learning

Notes gives University of Paderborn educators a new tool to support their classroom teaching. Delivering course materials -- such as research papers and lecture notes -- in a traditional manner was very inefficient, since there might be hundreds of students in a specific class. Plus, this method did not allow for quick updates. With Notes, instructors can deliver any type of information -- text, charts, multimedia, and more -- to a wide audience. Rather than using overhead projectors, many instructors now run classes from their PC, using Notes to explore layers of information and to link to videos and other resources. The result? Notes creates a rich learning environment that integrates a wide range of information into the learning process.

"Instructors can deliver any type of information -- text, charts, multimedia, and more -- to a wide audience."

A more interactive learning environment

Notes allows for a greater degree of interaction between students and faculty. For example, using the Notes-based interactive classroom environment, a professor teaching business computing might ask students if they have questions or ideas about information management security. Students could then respond from their notebook computers during class, or from the workplace or home. They could even embed links to the World Wide Web in their E-mail messages, using Notes' seamless Internet integration to provide information that can aid learning. In short, Notes allows students to share information like never before -- interacting with each other and with faculty.

A pathway to the paperless environment

Part of the UniTeach 2000 effort is to reduce the amount of paperwork created by the university and to create more efficient electronic processes. The school is working to introduce new Notes-based processes in the administrative, research, and educational areas -- all aimed at creating a paperless world. "Notes is our single, unified infrastructure for electronic communication," says Nastansky. "With Notes, we can manage all our information more efficiently -- no matter what format it's in." Notes databases are replacing file cabinets as information repositories, providing a rich object store that goes beyond simply storing text. And with Notes advanced replication capabilities, information is automatically kept up to date, eliminating the large amount of outdated paper-based information that can overwhelm a department or school.

"Notes is our single unified infrastructure for electronic communication."

A back-end infrastructure for Web publishing

After using Notes for several years, the university has created a large body of information maintained in secure, updated Notes databases. When it chooses to publish any of this information, the process is extremely efficient, thanks to the build-in Internet integration of Lotus Notes. However, the school is carefully considering what information it chooses to make public via the Web. "At universities like ours, we need an infrastructure to create information, collect it, and refine it," says Nastansky. "For us, Notes is the answer. It serves as the infrastructure for a complicated workflow process between teaching assistants, professors, students, masters' students, and so on. We didn't create this process with the goal of publishing to the Web. However, we appreciate that Notes' rich, document-driven infrastructure and workflow integrates so smoothly with the Web. At this point, we publish a relatively small amount of information to the Web. However, we anticipate that this amount will increase. First, however, we feel it's important to create and refine our workflow within the organization. Only then can part of this well-defined and controlled information flow to the Web."

"For us, Notes is the answer. It serves as the infrastructure for a complicated workflow process between teaching assistants, professors, students, masters' students, and so on."

A connection to corporate partners

The school has close partnerships with several businesses using Notes in the Paderborn area -- one of the leading centers for Notes use and development in Germany. "We have a large network of partners in banking, insurance, and manufacturing," says Nastansky. "We use our Notes network to connect to these businesses, so Notes serves as a high-quality channel for communication of rich information, such as visuals, graphics, and more. If a partner isn't using Notes, we can also use Notes to connect to the Web sites of these organizations. In either case, our students can work closely with our business partners -- an important capability, especially at the graduate level."

What we learned The University of Paderborn provides the following advice to academic institutions considering Notes for distributed learning:

- Use students to spread an understanding of groupware throughout the school. Once they use Notes, they'll understand how it aids education.
- Think big but start small. When building up your infrastructure for distributed learning application, try to maintain a critical mass of projects and infrastructure.
- Begin by gathering support from Notes supports. Included in this group should be the person responsible for the general mission of your organization, the person will benefit most from the problems solved by Notes, the groupware technology expert, and an external change agent.
- Content is key. Start the deployment process with rich content, not empty databases. Keep your Notes applications simple at first, and limit their number. Focus instead on providing quality content in the initial databases.
- Make your virtual campus as "real" as possible. The information workflow and information processes for the virtual campus must go well beyond e-mailing, posting of information, and browsing. You must envision and define a new communication process that reflects the complexity of actual interaction - including information contribution, reaction, assessment, information enhancement, process views, collaboration patterns, and more. To create this process requires participation from students, lecturers, and the administration.
- Create external links. Participation from industry and public administration generates a strong support network and a variety of options for collaborative student projects.

For more information you may want to contact:

The Groupware Competence Center GCC

c/o Prof. Dr. Ludwig Nastansky

Wirtschaftsinformatik 2 - FB 5

University of Paderborn

Warburger Straße 100

D-33098 Paderborn, Germany

E-Mail: GCC@Notes.Uni-Paderborn.de

Notes: GCC@WIUNIPB@NET

Tel.: +49--5251--60-3368

Fax: +49--5251--60-3399

WWW: <http://GCC.uni-paderborn.de/>