Al-Jarf, Reima (2005). Smart Classrooms and Language Teaching. Conference on Languages in the Globalization Age: Future Perspectives. King Khalid University, Abha, Saudi Arabia. February 20-22, 2005.

Smart Classrooms and Language Teaching

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Abstract

Due to latest developments in information and communication technology, the number of schools and colleges using computers in the classroom is increasing. Smart classrooms are being used at many universities in developed countries. Such smart classrooms are equipped with PC's and other types of multimedia and projection devices connected to the internet and the university LAN. This study defines smart classrooms, describes their equipment, set-up, types, specifications, design principles, how they are operated, their schedule, what uses can be made of them, how they can be utilized in foreign language teaching and learning, what language and translation internet resources can be integrated, the instructors' role, training of faculty, the smart classroom operation manual and significance of technical support.

Introduction

The technological revolution that took place in the 1990s has made rapid advancements in all fields including teaching and learning. Teachers and students in universities in developed countries are using the Internet, classrooms and multimedia labs in teaching and learning. Technology is being used in distance education. Instructors and students can conduct live chats on the Internet. The presence of advanced technology in university classrooms has become a necessity, as instructors can display outputs from their computer to a class with a large number of students. The number of instructors who design graphics on their computers and want to use them in their classroom has increased. They want their students to see information and research results from computers or databases in many parts of the world. They want students to view data from computer centers, stock market indicators from Dow Jones, photographs from NASA on the Internet, a blueprint from a planning office, a rare manuscript in the library, or a painting by Van Gogh on a slide in a slide collection of a museum or library, and display them on a large screen in front of the students. They want to take their desk to the classroom, and they want to take students outside the classroom. Through Ethernet, they can instantly connect to a very large number of still and motion pictures. It has become possible to send and receive sound and image between a number of classrooms inside and outside their campus, and to transform traditional classrooms into distance learning classrooms across university buildings, through videoconferencing between the university and anywhere in the world. They can talk with an expert or book author and hold a discussion or dialogue with a specialist anywhere in the world. Instructors can host specialists in the classroom that are impossible to host in traditional ways due to the cost and time factors.

The results of some studies have shown that technology-based classrooms have a positive impact on students' achievement and attitudes towards the instructional process. The teachers of the Hueneme Educational District, in cooperation with GTE Company in California, have developed smart classrooms, which are classrooms that rely on advanced technology, in which personal computers, interactive laser video disc programs, closed-circuit television, VHS

programs, satellite communication, local area networks (LANs), modems and telephones are integrated. in a study of a sample of first-year middle school students that included 192 gifted and talented students, special education students, and students with limited English ability, Rescigno (1988) found that converting first-year middle school science classes into smart classes and individualizing instruction enabled students to progress through lessons at their own pace and achieve educational goals at their own pace. Students' attitudes toward learning also improved. Their sense of success enhanced their self-confidence as they could progress at their own pace, and were eager to accept new challenges.

To identify the methods that can be used to teach students with special needs, Tornabene (1998) conducted a study to explore the opinions of students in the field of health education on the effectiveness of using devices and other educational means. Tornabene found that students preferred to use smart classrooms equipped with an Apple computer, a number of application programs, internet connection, an LCD projector, a visual presenter, a video projector, and a laser disc player, all connected to a mechanical video switcher, as opposed to traditional classroom instruction. Tornabene found that the traditional classroom has some advantages, however it is preferable to combine a variety of teaching methods and designs to achieve the best effect.

With the great progress in the use of technology in education, the results of a study conducted at the Massachusetts Institute of Technology (MIT) showed the desire of faculty members and students to create more attractive, warm and intimate classrooms that increase the rate of interaction between students and instructors. Attractive classrooms add a touch of dignity to the educational process. If classrooms are dirty - despite the presence of elegant sports, administrative, research and scientific facilities - they will suggest that the educational process is of secondary importance. Researchers at the University of California, Davis, emphasized the need to create diversity in the classroom because similarity means boredom and monotony, while variety means the possibility of communication between instructors and students inside and outside the classroom. University classrooms are usually described as ugly, gloomy, cold, lifeless, windowless and colorless.

If we move to English and translation departments in our country, we will find that the educational process still takes place inside the classroom, it is based on the teacher as a source of information and is carried out using traditional methods based on paper books, pens, blackboards and some old educational techniques. As for the use of computers, the Internet and multimedia laboratories, they have not found their way into many of them yet. Since the use of technology in education has become inevitable and not a luxury due to its positive effects on the process of teaching and learning foreign languages, the transition from traditional education to education in smart classrooms that rely on technology - whether in whole or in part - will improve students' achievement and will have positive effects on their attitudes towards the educational process. If we know that a university student spends about 400 hours a year in the classroom, we will realize the importance of students studying in attractive classrooms that are compatible with the spirit of the era in which we live, especially since computers and the Internet have become an integral part of students' daily lives outside the university, and some of them are proficient in browsing the Internet, participating in forums, chat rooms and news groups, sending and receiving e-mails, and are proficient in using digital cameras, uploading pictures to and from the Internet, and some of them are proficient in designing pages and websites, designing and conducting Powerpoint presentations, operating laser discs and

multimedia, and using programs and electronic books, we will feel that there is a gap between the atmosphere of the classroom inside the university and a life rich in technology outside it.

Hence, this study calls for the necessity of introducing different forms of smart classrooms in our universities because smart classrooms operate on a self-service system and the instructor does not need a technician to operate them. Instructors can set up the device according to their time. They can connect to information outside the classroom via an Ethernet connectivity port. They can download texts and images from the Internet in the office and transfer them to a laptop from a computer in one of the offices, or they can search for texts and images on the Internet from the classroom in real time using the laptop as a terminal. Instructors can use their own laptops to learn about devices and software outside the classroom. They can easily connect computers in smart classrooms and display what comes out of the computer, just like operating a video projector easily.

Aims of Study

This study aims to define smart classrooms, their importance, and justifications for their use in teaching languages at Saudi Arabian universities, describe smart classrooms and their equipment, levels, specifications, design principles, services they provide, applications in that can be used in teaching languages and translation, usage schedule, the role of instructors in them, technical support, training instructors on how to use them, and developing a user manual. Electronic classrooms provide teachers and students with new educational opportunities in which networks, computers, audio and video technology are integrated.

Definition of smart classrooms

Smart classrooms - also called electronic classrooms and technology-based classrooms - are technology-enhanced classrooms distributed throughout many parts of the university campus. They are equipped to provide instructors and students with new forms of computers, media, display and control devices, and are connected to the university network and the Internet. They are rich in communications and create new opportunities for teaching and learning by integrating network technology, audio and video technology, and digital technology. Smart classrooms are traditional lecture halls equipped with a video and information projector, a DVD/VHS unit, an overhead projector, and a slide projector. They are connected to laptops, the university network, the Internet, and a smart control panel that allows easy connection and control of the projector. In smart classrooms, a teacher's workstation is equipped with a computer and an audio and video device that allows the instructor to use a variety of media including DVDs, VHS tapes, and Powerpoint presentations, all of which are displayed by the projector. Technology-enabled classrooms are spread throughout the campus. They are equipped with a wide range of computers and educational tools, and display and control capabilities, including connection to the university's internal network and the Internet. Smart classrooms may be in the form of lecture halls, computer labs, meeting rooms, or regular classrooms.

SMART Board interactive whiteboard

multimedia cabinet

Sympodium interactive pen display

Interactive digital signage

Smart Classroom Equipment

First: Furniture which includes:

- Comfortable console table with a computer with CD-ROM, DVD, ZIP drive and floppy disk drive, high-speed internet, quality amplification, laser discs, wires (connections) to connect the laptop, connected to a VCD projector to obtain clear, bright images with a key to the cabinet.
- Teacher's work tableTeaching Station
- Small podium with Ethernet connections
- Movable Cart
- User control panel fixed to the wall
- Screen in large lecture halls or laboratories
- Smart board in classrooms with an area of 48" X 60", enabling the teacher to control the computer from the display surface, and providing him with an electronic surface on which he can write and draw during the explanation.

Second: Equipment which includes:

- Computer with DVD and Zip Drive
- Connection for the laptop
- Wireless mouse
- Touch screen control
- LCD projector suspended from the ceiling.
- VCR.
- Telephone.

- Microphone (handheld and lavalier wireless).
- AUX-video Input
- USB Input
- Overhead Projector
- Document Reader.
- 35mm Slide Projector.
- 16mm Film Projector.
- RGB Projector or Screen.
- Television.
- Cassette Player.
- Laser Disc Players
- VHS Players
- DV Cam Player
- Cameras
- CODEC
- Video file servers
- Satellite Programming
- Controls (varies depending on the audiovisual media selected)
- Wall mounted user control panel
- Stereo Sound

- Cassette Player
- SC computer
- DVD
- Data projector
- Speakers
- VCR
- Slide Projector
- OHP
- Dept Computer

- Office XP
- Netscape
- Internet Explorer 6.0
- Acrobat Reader 6.02
- Cyberlink PowerDVD 4.0
- Flash Player 7
- Shockwave Player 10
- Host Explorer 6.2.0.1
- McAffee VirusScan 7.0
- Conferencing software
- Quicktime 6.51
- RealOne 2
- Visual Studio.NET
- Winamp
- Windows Media Player 9
- Computer lab instruction software

Third: Programs and Software such as:

Internet Explorer 6.0, Netscape 7.0, Chime 2, MS Media Player 7, Quicktime Player 6.3, Real Audio 6.0, Acrobat Reader 6.0, Minitab 13, MS Office XP Pro (Access, Excel, PowerPoint, & Word, Publisher, Frontpage), McAfee anti-virus, Norton Antivirus 8.0, SciLab 2.6, SPSS 11.0, WinDVD 4.0, WinPlot 3.2, Office Multilingual disks: French, German, Spanish, Portugese, Brazilian, Novell Client, with NDPS, Real One player, DivX player, Macromedia Flash Player, Macromedia Shockwave Player, Java, DVD player software, CD burner software , SMART Board software, Win Remote (video control), Other Departmental specific software as needed.

Fourth: Other accessories:

- 35mm slides, 16mm films, WordPerfect documents, transparencies, notes, 3D models, recording tapes, video tapes.

Smart Classroom Levels

1) Classrooms equipped with a TV, video projector, screens, slide projector, and Overhead display. Cabinet for storing equipment, screens, overhead projector, TV and large screen projector, video projector, foldable projection table at the back of the classroom, 16mm film projector, 35mm slide projector. Resources requested by teachers In the classroom: Blackboards, overhead projectors, slide projectors, video and television projectors, film recorders and projectors, video CD players, laser pointers, laptop projectors and other visual display devices should be provided to them upon request.

2) Classrooms equipped with smart display capabilities, including a video projector, an data and image projector, a podium, and a control panel for educational media fixed to the wall where the presenter can display computer outputs on a large screen, and it has a slide projector and an overhead projector.

3) Classrooms with interactive computers Interactive computer classroom Each work desk has a computer, a main work desk with a teacher's computer, and the ability to display from within the students' computers on the screen and send selected images to all students' computers. It has a video projector, an data and image projector, a slide projector and a projector Upper, podium and control panel for educational aids fixed in the wall.

4) Classrooms with the ability to display images to and from two halls (in two directions): with television cameras, microphones and codec for compressing images, video tape projector, data and image projector, podium and control panel for educational aids fixed on the wall. The teacher can display the computer output on a large screen. It also has a slide projector and an overhead projector.

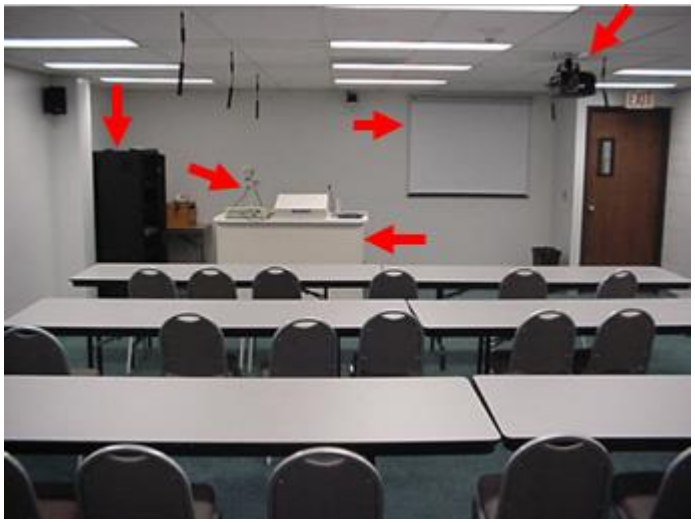

Level 1 smart classrooms


Level 2 Smart classrooms

- Smart classrooms provide students and teachers with a learning environment with an internet-connected computer, image and audio devices, projectors, and a telephone line to call technical support when needed.
- It is connected to computers, the university network, the Internet, and a smart control panel that allows easy connection to and control of the image projector.

Level 3 smart classrooms

These classrooms are capable of projecting images to and from two halls (two-way): TV cameras, microphones and codec for compressing images, video projector, slide projector, overhead projector, data and image projector, a platform and a control panel in teaching aids installed in the wall. The teacher can display the computer output on a large screen.



On the left, we see the video conferencing rack that contains a computer and the audio and video control buttons. The computer is used to display the image on screens, and there is another device for Powerpoint presentations, word processing and other things that the instructor and students can use from their devices. Documents, drawings, pictures, etc. can be sent on the computer screen to the other party. Volume control buttons are used to adjust microphones suspended in the ceiling. It is placed in a place where all students can hear the sound clearly.

The instructor's desk in the distance education classroom. It has a VCR to record what is taught in the local classroom and the distance education class according to the requirements of the videoconference and can be used to display videos on the distance education screen. It also has a camera to photograph documents that enable the instructor to view transparencies, pictures, pages from the book, etc., which he wishes to see with students on the other side.

Different Smart Classroom Designs

A traditional design where computers are arranged in rows parallel to the front side of the class and the speaker cannot see the students' screens. And here there is a problem with vision between the students and the speaker. The corridors on the sides allow the speaker to walk around all students.

A class with Socratic design where computers were placed in rows parallel to the front of the class. There are corridors that allow the speaker to walk between students. This design is intended for small groups. Seated students, sitting in their chairs, can move 90 degrees to see better, ask questions and answers, and get to a computer.

A classroom with as Socratic design (as in previous pictures above).

Smart Classroom Design Principles

- Smart classrooms should be designed to meet the diverse demands of faculty members such as: a screen at the front of the classroom, switches to control lights parallel to the front of the hall and windows to reduce light falling on the screen, a fold-down table to accommodate a slide or film projector with an electrical outlet within easy reach, a table or wheeled cart for the overhead projector at the front of the classroom with an outlet within easy reach, a cabinet for teaching aids to store the video projector, overhead projector or slide and film projector, a recorder, a television receiver above the media cabinet or a ceiling-mounted video projector in large lecture halls, display systems that can receive signals from television, video tapes, laser discs, CD-ROMs, and computers. Lighting, sound system, and seating should be coordinated to suit each medium, and should be integrated into the classroom on a thoughtful basis.

- Adequate space should be left at the front of smart classrooms for conducting presentations. It should contain blackboards and a number of screens, so that the blackboard and the display of images can be used at the same time. The instructor should be able to display multiple images for comparison, allow for changing the technology used in the display, be able to increase the screen width, and have the free space in the front of the classroom allow for the use of an overhead projector, with a place for instructors to walk while giving lectures, and an open space for conducting presentations and experiments.

- Sufficient space should be left in the front of the classroom for the overhead projection. A space of 9 feet should be left if the hall is 25 feet long and has 25 seats, and a space of 11 feet should be left in a hall 35 feet long and has 70 seats.

- Instructors should be able to move around the classroom freely, and electronic classrooms should be spacious so that each student has an area of 35 square feet and have movable chairs.

- Instructors who use presentations prefer wide classrooms rather than long ones because they bring them closer to the students and because there is a large space for the projection in the front of the classroom.

- It is preferable to make the rows of seats curved and not have a platform for the teacher, to enable him to make eye contact with the students of the evening classes, and because the teacher's platform hinders the teacher's movement, and needs a slide to meet ADA requirements.

- Students prefer a large surface to write on, i.e. a writing table with an area of 130 square inches, to take notes, and place calculators, exam papers and tools.

- 70% of teachers prefer chalkboards over whiteboards because they need to have pens always available and because pens dry quickly. The chalkboard should occupy the entire front of the classroom at a height of 34 inches above the floor.

- Determine the area of the board for each classroom based on the length of the classroom and the number of seats in it. A classroom that is 25 feet long and has 25 seats needs a screen that is 6 feet wide, and a classroom that is 35 feet long and has 70 seats needs a screen that is 8 feet wide.
- It is preferable to use several small screens instead of one large screen. Teachers prefer to have a chalkboard in addition to projection screens for presentations. The large screen blocks the chalkboard.

- A trough covers the entire front of the room to allow for easy screen changes.

- The screen is placed at an elevated position so that all students can see the bottom of the image. A 7-foot screen is placed 9.25 inches off the floor, an 8-foot screen is placed 10 inches off the floor, and a 9-foot screen is placed 11 inches off the floor.

- The light switches are parallel to the front of the room, as this allows the teacher to control the lights in the front, middle, and back.

- Reduce glare from overhead lights that dull the image on the screen by using louvers. During presentations, the lights should be bright for student interaction, not dim for notetaking. When the lights in the student area are on, the screen should be illuminated 3-5 feet. to make the lighting indirect. The teacher needs adequate lighting in the computer podium. Adding parabolic louvers will reduce the glare and brightness on the display screen.

- The presence of buttons to control the whiteboard lights while displaying the educational material from the computer, so that students can read without lighting the screen.

- Put names on the light buttons so that teachers know which buttons control which light.

- Place curtains on the windows to reduce the light coming from outside. The curtains are made of metal and cloth to darken the classroom as needed.

- Place a small podium in the front corner with an electrical outlet, data jack and display connection.

- Hang down the data and image projector from the ceiling so that it is twice the width of the screen from the screen.

- The control buttons for the data and image projector and the video tape projector are fixed to the wall in the front of the classroom. Teachers need to have buttons in the classroom that are at eye level. There is a shelf inside the wall that can be pulled out.

- The presence of a computer control tool for the presenter, as instructors need to display students' work on a large screen, and they need to send selected computer images to the students' computer screens.

- If the use of simulations, scientific experiments, research, and writing lessons in the electronic classroom is intermittent, the computers in the classroom are arranged so that the instructor can see all the students' computer screens. The permanent use of computers in interactive lessons based on questions and answers requires that students see each other from above the computer screens. This requires that the computers be recessed and tilted in the table and raised 9 inches above the table surface, and that each worktable allows enough space for the computer and its accessories and for the student's papers and notebooks. A space of 30 x 36 inches is sufficient, and it is preferable to allocate a space of 40 x 48 inches for each student.

- For instructors to give their presentations spontaneously, smart classroom technology should be simple and easy to use, and a source of inspiration.

Smart Classroom Usage Criteria

- Can the images on the screen be seen when the lights are on?
- Are all the classroom controls at arm's length? Can the teacher operate all the devices without having to lie on the floor or stumble in the dark?
- Are the connections adequate for all the technology in the classroom?
- Can images be displayed on the screen and written on the board at the same time?
- Is there a trough for the screen that allows for changes to the screen in the future?
- Can the teacher bring a laptop and display images on the screen?
- Can I switch from computer display to video display?
- Can students hear the presenter and teaching aids clearly?
- Is the wall at the front of the classroom wide?
- Are there small openings in the door for viewing through which students can see if the classroom is in use or not? Are these openings narrow enough to prevent light from leaking in from the corridor?
- Are the student seats graded in height so that the teacher's podium is not needed?
- Is there enough space at the front of the classroom for overhead display?
- Are there enough chalkboards?
- Are students provided with a large enough writing desk to prefer?
- Are there railings around the classroom to prevent chairs from scratching and gouging the walls?
- Is the television set mounted 52 inches off the floor?
- Are there multiple small monitors instead of one large monitor?
- Is the monitor mounted and mounted at a suitable height so that all students can see the bottom of the image?
- Can classroom lights be turned on in rows parallel to the front of the classroom?
- Is glare from overhead lights minimized?
- Are light switches labeled on the covers?
- Do window coverings reduce outside light?
- Is the classroom a small 2' x 5' table for the teacher?
- Is there a fold-down table (16' x 25') at the back of the classroom for a slide projector and movies?
- Could an open table at the back of the classroom replace the projector booth?

- Are there bulletin boards on the walls outside the classroom door?
- Are the teacher and students able to move around the room?
- Is there interactive control at the presenter's disposal so that he can display student work on a large screen?
- Is the furniture arrangement appropriate for the educational purposes of the classroom: such as using simulations, scientific experiments, investigations, and writing classes so that the instructor can see all students? If using computers for interactive lectures that rely on questions and answers and argument-based teaching, can students see each other from above the computers? Are the recessed screens 9 inches above the table surface?
- Is there sufficient space for student work (for student activities), the computer and its accessories, and student papers (30 x 36 inches), preferably 40 x 48 inches.

Smart Classroom Applications in Language Teaching and Translation

- Transferring discussions of master's and doctoral theses between more than one hall and more than one university campus.
- Transferring seminars and conferences between more than one hall and more than one university campus within the university and between more than one university and more than one country.
- The instructor can teach male and female students at the same time.
- It can be used to attend meetings.
- Browse English language teaching websites on the Internet.
- Train students to use a specific program.
- Conduct a discussion between a group of individuals via the Internet.
- Use electronic courses.
- Browse dictionary and encyclopedia websites on the Internet.
- Browse translation websites.
- Browse electronic periodicals.
- Train instructors.
- Display lessons.

Usage schedule

In order for a group of instructors with different specializations and different teaching methods to be able to use smart classes, it is necessary to develop a schedule for using smart classes that suits instructors who need support from basic educational means. The technology required by instructors should be permanently present in media-equipped classrooms. The schedule should include broadcast times for master's and doctoral theses discussions, seminars, conferences, meetings, and joint teaching between male and female students. At the beginning of the semester, the head of technicians sends messages to faculty members to find out who wants to use the electronic classrooms to specify the days and hours they want to use the smart classrooms, and the devices they want to use, to set a schedule for using the smart classrooms every week throughout the semester.

Instructor's Role

- The instructor can use the smart classroom devices himself. All he has to do is bring the laptop to the smart classroom, equipped with the necessary settings, applications, and files. The ceiling-mounted projector is connected to the laptop and to the podium in the classroom with only one wire.
- Prepare Powerpoint presentations.
- Prepare the sites that he wants to show the students.
- Operate the projectors in the hall such as LCD, slide projector, overhead projector, films, video tapes, etc.
- Use the POLICON program
- Connect to the Internet.
- Download files from the Internet.
- Transfer files from the teacher's device to the students' devices.
- Help students with their presentations.
- Use the control panel mounted on the front wall that contains buttons to control the projector and video projector. This equipment allows cable TV, videotapes, and computer presentations to be viewed from work tables with Macintosh and IBM computers.
- Use the control panel for lights.
- Use the control panel for projectors.
- Control the volume.

Technical Support

It is essential to have a specialized team with technical expertise and knowledge of customer service principles to support classes based on educational media. Team members design, install, clean, inspect, maintain and replace devices when necessary, inspect, test and clean devices at least once a week. Remove chalk powder from the surface of the TV, overhead projector and podium to ensure that all devices are working according to the instructors' standards. They spend a small part of their time repairing devices, and most of their time working with instructors individually. The staff consists of a number of full-time audiovisual technicians, part-time CCTV specialists, an administrator and a number of student operators.

Technicians train instructors and operate in tight confines. In large lecture halls, student operators provide full support as requested by instructors, such as helping teachers download applications and files onto the computer in the classroom or those they have previously downloaded onto their laptops before the lecture. When a teacher needs to use educational aids but they are not teaching in a classroom equipped with them, the head technician should check the schedule of using electronic classrooms to find a room equipped with the aids for emergency use.

Provide bags with bulbs for the overhead projector, rolls of transparencies, and pens to write on the transparencies.

Training Instructors On Using Smart Classrooms

Technicians can train teachers on using smart classrooms at the beginning of the first and second semesters of the academic year. They train teachers on how to operate the projectors in them, how to use the control buttons, and the light buttons to dim the classroom when needed, how to conduct presentations using the data and image projector, ways to send images and files from the teacher's laptop to the students' computers, how to receive images and files from the students' computers, and help students conduct their presentations from their computers.

It is necessary to hold training courses for language and translation teachers focusing on the following:

- Introducing general and specialized search engines such as:
- Alta Vista, Excite, Yahoo, Lycos, Beaucoup, Google, Direct Search, Virtual Search Engines, WebData, InvisibleWeb, WebCrawler, MetaCrawler, AOL, Look Smart, Mamma, Northern Light, Magellan, Alltheweb, Search Ability, Raging.
- Introducing English language teaching sites on the Internet such as:
- English Learning Fun Sites, TOEFL, PIZZAZ, proActive English, Words for a modern age, connectED, Pearson Education, ESL Online Course, Global English, British Council, Dave's ESL Cafe, Peak English, Educast.
- Introduction to online dictionaries and encyclopedias (for language and translation) such as:
- 1000 Dictionaries, Homepage of Terminology and Language Industries DTIL, European Network of Terminology Information, DEUTER Terminology, Translation Tools and Dictionaries from T-Online, Free Internet Encyclopedia.
- Links related to translation such as:
- Wordbot Robot Assistant for looking up translations, Multilingual Internet Guides and Resources, Free Translation Exchange by TransNEt2000, Controlled Languages Homepage, Machine Translation Homepage, Translation Information Page, Translation resources, The Translator and the Current Services of the Internet, Links on Machine Translation, Interesting Websites for Translators and Interpreters.
- Introduction to language and translation conference sites such as: Conference list.
- Introduction to the websites of scientific associations specialized in language and translation such as:
- American Translators Association, International Reading Association, International Federation of Translators, The Translators Association, TESOL, TESOL Arabia, TESOL Egypt, IATEFL, American Association of Applied Linguistics, The Modern Language Association, AILA.
- Introduction to the websites of publishing houses such as:
- Oxford University Press, Mouton de Gruyter, Longman, Scott-Foresman.
- Introduction to the websites of bookstores such as: Barnes and Noble, Amazon, Borders
- Introduction to agencies and offices that provide translation services such as: Glenn's Guide to Translation Agencies.
- Introduction to magazines, periodicals and e-books in language and translation such as Translation, Converge.
- How to conduct a discussion between a group of individuals via the Internet.
- Introduction to mailing lists for foreign languages and translation such as.

- Using e-mail to send and receive assignments, texts, translation, tests, websites and educational materials.
- Introducing language and translation forums and discussion groups such as:
- Discussion list for University and Polytechnic Students, EFL Forum, EFL Teachers' Lounge, ESL Cafe's Discussion Center, Proz.
- Introducing online student information systems such as: PowerSchool, AOL School, Discovery School,
- Using translation programs such as TRADOS, STAR.
- Designing multimedia lessons.
- Using e-courses: Blackboard, webCT, eCollege, Moodle, Nicenet
- Using testing sites:, Question Mark Quia
- Using lesson design sites: Hot Potatoes,
- Introducing electronic library catalogs.
- Introducing translation databases such as: Lagos Database, Wordtheque.
- Definition of specialized databases such as: ERIC, LLBA, MLA, LABS, DAI,

Smart Classroom User Manual

It is necessary to have an introductory manual that contains snapshots of the smart classroom and images of the devices available in it with the control panel for the display devices, lights and sound, so that it explains the function of the smart classroom and how to operate it.

Recommendations

The author recommends the following:

1) Universities should focus on teaching through smart classes instead of teaching through traditional methods. This would contribute to solving the problem of faculty and classroom shortage, the overcrowding of classrooms with students, and the steady increase in the number of students applying and wishing to join universities.

2) When designing smart classes, it is necessary to clearly define the goals, duties, and electronic discussions, integrate the chatroom and discussion threads with the course, emphasize the commitment to time and encourage students to do so, train them to connect to the Internet and enter the site several weeks before the start of the study, and use additional remote communication technologies such as audio, video, and telephone when necessary.

3) When using smart classrooms for the first time, the level of students' skill in using the computer should be determined, the educational components should be diversified, students should be provided with technical support, the course content should be presented in several ways, a number of communication channels should be used and made flexible, and initial instructions and guides should be distributed to students.

4) 5% of the value of electronic classroom devices should be provided each year to renew and replace the devices, because the continuous replacement of devices will allow

technicians to devote more time to training instructors, instead of spending a long time working with devices. This will reduce the cost of repairing and maintaining devices and give others the impression that the university has new devices.

Conclusion

The use of smart classrooms in the teaching and learning processes is no longer a luxury, but a necessity imposed by the tremendous technological developments that occurred in the twentieth century and the beginning of the twenty-first century. This means that the role of the teacher, the skills, tasks and roles required of him have changed. Smart classrooms pose more challenges to teachers than before, and require more knowledge and the ability to develop themselves to keep up with their time. Since university students at the present time will spend the rest of their lives dealing with technology, they should be given the opportunity to use it in the educational process inside the classroom, and instructors and students should find it easy to deal with technology inside the classroom. They should be enabled to conduct presentations on the computer by providing them with a small podium equipped with electricity, connection to a computer, a data jack and another for audio in the front corner of the classroom. Digital images can be displayed by data and image projectors permanently suspended from the ceiling with controls on a media panel near the front corner of the classroom. This control panel is mounted at eye level on the wall and contains a common interface for the data projector, image projector, and the VCR. Different learning styles—such as discussions, discovery learning, cooperative learning, and simulation—require different arrangements of classroom components. The challenge for universities is how to combine the expertise of audiovisual, librarian, and computer specialists with architects and space planners to focus on the needs of faculty in the classroom and then translate those ideas into practical, effective, and cost-effective teaching and learning environments.

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