DOCUMENT RESUME

ED 470 100 IR 021 538

AUTHOR	Maushak, Nancy J.; Chen, Hui-Hui; Lai, Hung-Sheng
TITLE	Utilizing Edutainment to Actively Engage K-12 Learners and Promote Students' Learning: An Emergent Phenomenon.
PUB DATE	2001-11-00
NOTE	8p.; In: Annual Proceedings of Selected Research and Development [and] Practice Papers Presented at the National Convention of the Association for Educational Communications and Technology (24th, Atlanta, GA, November 8-12, 2001). Volumes 1-2; see IR 021 504.
PUB TYPE	Reports - Evaluative (142) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	*Computer Games; Computer Simulation; *Computer Software Development; *Computer Uses in Education; Educational Development; *Educational Technology; Elementary Secondary Education; Instructional Improvement; Instructional Materials; Learner Controlled Instruction; *Student Motivation

ABSTRACT

Researchers have claimed that while educational computer software does not necessarily improve students' academic performance, it does provide for students a more interesting and motivational environment for learning. It naturally fits in the context of students' learning since it can deliver nonstop actions, realistic sounds and vivid colors to get students' attention. It also corresponds to the ongoing move towards more student-centered learning (Ellington, 2000). The design of educational computer software adapts games and simulations to help students learn while having fun. Although currently at least one computer per classroom is used for instruction and the number of students per computer is decreasing, teachers are facing challenges to utilize educational software to engage students' learning due to the lack of sufficient technology infrastructures, the lack of proper and quality educational software, and the lack of training and support to make utilizations. This paper explores whether educational software that entertains K-12 students can also promote learning in the practical educational context. The paper also investigates the emergent phenomenon of whether educational software works as "edutainment" to facilitate and motivate students' learning, and whether the utilization is implemented in real classroom instruction without obstacles. The ultimate goal of this paper is to explore the emergent phenomenon of utilizing "edutainment" to actively engage students and promote students' learning. (Contains 43 references.) (Author/AEF)

Utilizing Edutainment to Actively Engage K-12 Learners and Promote Students' Learning: An Emergent Phenomenon

By: Nancy J. Maushak, Hui-Hui Chen, & Hung-Sheng Lai

Utilizing Edutainment to Actively Engage K-12 Learners and Promote Students' Learning: An Emergent Phenomenon

Nancy J. Maushak
Hui-Hui Chen
Hung-Sheng Lai
Texas Tech University

Abstract

Researchers have claimed that while educational computer software does not necessary improve students' academic performance, it does provide for students a more interesting and motivational environment for learning. It naturally fits in the context of students' learning since it can deliver nonstop actions, realistic sounds and vivid colors to get students' attentions. It also corresponds to the ongoing move towards more student-centered learning (Ellington, 2000). The design of educational computer software adapts games and simulations to help students learn while having fun. Although nowadays at least one computer per classroom is used for instruction and the number of students per computer is decreasing, teachers are facing challenges to utilize educational software to engage students' learning due to the lack of sufficient technology infrastructures, the lack of proper and quality educational software, and the lack of training and support to make utilizations.

This paper will explore if educational software that entertains K-12 students can also promote learning in the practical educational context. Also, this paper is to investigate the emergent phenomenon of whether educational software works as edutainment to facilitate and motivate students' learning, and whether the utilization is implemented in real classroom instruction without obstacles. The ultimate goal of this paper is to explore the emergent phenomenon of utilizing edutainment to actively engage students and promote students' learning.

Introduction

The increased use of computers in education comes along with progressive technology, both hardware and software. It is really easy to discover educational software targeting at K-12 students. The design of educational computer software can be seen as the adaptation of the attributes of games and simulations to help students learn. The manipulation for educational purposes and entertainment is remarked as one kind of edutainment. However, we do not know specifically how students are likely to interact with varieties of educational software in terms of edutainment. Is it for educational purposes or rather for leisure? Furthermore, utilization of educational software in classrooms is not clinical. The exploration of teachers' implementations of educational software for real instruction is rare reported and investigated. It is uncertain how teachers utilize educational software for their teaching. The focus of this paper is a preliminary analysis of at what degree the utilization of edutainment, in terms of educational software, in schools is taken place. We are particularly interested in discovering discrepancies beyond the emergent phenomenon.

Current Status of Technology in K-12

In 1996, President Clinton articulated a clear vision for improving 21st century education through the use of technology in American schools. Defining "Four Pillars" (U.S. Department of Education, 1996) as part of his Technology Literacy Challenge, the President called for broadening educational technology objectives to include not only hardware and connectivity, but also digital content and professional development. The "Pillar" of digital content asserts that effective software and online learning resources can increase students' learning opportunities.

Computers in K-12 public schools

In fact, with student populations growing (NCES, 1997) and many buildings and facilities aging (U.S. General Accounting Office, 1995), every school has its own unique priorities that compete for limited resources. All schools must ensure that the drive to integrate technology does not supplant the fundamental need to provide all students with basic skills such as reading and math although technology can be an effective tool for meeting learning objectives (CEO Forum, 1997). In 1995, reports suggest that nearly 60% of school computer purchases were used to replace old and outdated computers, resulting in only a marginal increase in the number of machines available to students (QED, 1996). In the 1998-1999 school year, the average student to computer ratio was 5:1 and the average student to multimedia capable computer ratio was 10.1:1 (QED, 2000). In the 1999-2000 school year, the average student to computer ratio was 5.4:1 and the average student to multimedia capable computer ratio was 9.6:1 (QED, 2001). The survey results for school year 1998-1999 and school year 1999-2000 were very close showing that no significant increase of computer available to students. The differences were embedded only on the percentages of Internet connection for these two school years. In year 1999, 95 percent of public schools and 64 percent of public classrooms are connected to Internet and have Internet access, and in year 2000, 98 percent of public schools and 77 percent of public classrooms are connected to the Internet and have Internet access (CEO Forum, 2001). Teachers' uses of technology at schools were reported as well but mostly stated as using computers daily for planning and teaching, as using the Internet for instruction,

and as using emails. Among above usages, creating for instructional materials using computers accounted for the major utilization (CEO Forum, 2001).

Supports and training for teachers

Scrogan (1989) reported that many teachers wanted to learn more about technology but were unable to find satisfactory instruction. To overcome this, teachers were asking school systems to provide more relevant and consistent training and support for integrating technology into curricular (Becker, 1992). A more recent survey conducted by the National Center for Educational Statistics (NCES, 1999) indicated that less than 20% of current teachers reported feeling very well prepared to integrate educational technology into classroom instruction (Schrum, 1999). In general, K-12 teachers do not receive enough time, access, support, or encouragement to become comfortable with computers (Siegel, 1995). Recent research indicated that although teachers are eager to use technology for professional and curricular activities, a lack of teacher-development programs and time dedicated to experimentation hinder teachers' skills and knowledge (Schrum, 1995; Schrum & Fitzgerald, 1996). Teachers have indicated that their greatest barrier for use of technology is a lack of understanding of how to use it in classrooms (Hancock & Betts, 1994; Becker, 1992). Becker (1992) reported that teachers who had more experience with computers were more inclined to integrate the curriculum across subject areas and use computers as a tool for learning. Koontz (1992) found that teachers with some experience with computers had more favorable attitudes towards technology and were more willing to use technology in their classrooms. Clearly, access to technology and lack of ongoing support are major obstacles for educators interested in implementing information technologies in teaching (Schrum, 1995). Teachers are on their own to make up their decisions whether to use computers to teach and how to utilize computers into lesson activities. Use of computers in instruction tends to be by individual teachers.

Adoption of technological innovation

Rogers (1995) offered a significant review of adoption of technological innovation and found that the adoption depends on the potential adopter's determination of five criteria. These include (a) the relative advantage; (b) the compatibility with personal values, experiences, and needs; (c) the complexity of use; (d) the availability for experimentation; and (e) the observability of results to others. These factors all require attention prior to the initiation of the innovation. Moreover, the CEO Forum has developed the School Technology and Readiness Chart (STaR Chart) to provide a clear framework for assessing how prepared American schools are to meet the education challenges of the 21st century. The STaR Chart describes technology presence, use and integration in a typical school in four school profiles ranging from the "Low Technology" school that uses technology primarily for administrative functions, to the "Target Technology" school that integrates technology throughout the curriculum (CEO Forum, 1997). Beginning from 1997 and for each of the following three years, the CEO Forum would use the STaR Chart as the Backdrop for an assessment of how ready our nation's schools are to effectively use technology to enhance teaching and learning. The STaR Chart is available on-line and is handy to help schools and teachers accessing their readiness and development of technology for the current and future status.

Digital content

Digital learning is an educational approach that integrates technology, connectivity, content and human resources. When implemented correctly, it builds on the unique, dynamic characteristics of digital content to create productive and engaging learning environments (CEO Forum, 2000). Digital content can be randomly accessed, explored on many levels, interactive and engaging, manipulatable and creative. There is more about digital content in the 1997 STaR Report (CEO Forum, 1997):

> The digitization of information has led to more dynamic and interactive education content. Digitization has also transformed the way educators, parents and students use educational content. Not only can information now be packaged by traditional content creators in new and exciting ways - software, CD-ROMs or online resources - but it can also be used and creatively re-packaged by teachers, students and software publishers. In addition, new tools are available in the digital age allowing individuals to find, organize and create information as never before possible. (p. 28)

Assessing the degree to which digital information has been incorporated into classrooms can only be accomplished by examining the availability and use of digital content and digital learning tools (CEO Forum, 1997). The report of CEO Forum (2000) also indicates that people have placed much focus on hardware and connectivity than on digital content and digital learning. It is time for people to refocus on utilization and development of digital content and learning. It is evidenced to tell people's foci from numbers. Average school district spent 11 dollars out of 121 dollars per student on instructional software in the 1998-1999 school year (QED, 2000). Moreover, statistic data often omitted identifying kinds of instructional software in practice.

Instructional computer games as edutainment to students' learning

Educational computer software, as a form of highly interactive technology and a form of digital content, naturally fits in the context of students' learning since it can deliver nonstop actions, realistic sounds and vivid colors to get students' attentions. Educational computer software usually incorporates the nature of games and simulations into its design and development. In other words, while interacting with instructional computer games, students are engaged with education as well as having entertainment. The integration of educational purposes and entertainment turns the educational computer software into the edutainment.

Theoretical framework of games and simulations to students' learning

Dempsey, Rasmussen, & Lucassen (1994) put instructional games into simulations, puzzles, adventures, experimental games, motivational games, modeling and others. Instructional games sever many functions such as tutoring, amusing, helping to explore new skills, promoting self-esteem, practicing existing skills, drilling existing skills, or seeking to change an attitude. Research has shown that games and simulations can make a significant contribution to teaching and learning. The impact of games for education have been studied since 1960's although research did not specify computers as the medium of games. Past research has suggested that games improve student motivation, affective and cognitive learning. Randel, Morris, Wetzel, and Whitehill (1992) examined 68 studies regarding the effectiveness of games and simulations in terms of student performance compared with traditional classroom instruction. Of these 68 studies, 38 delineated no difference between traditional instruction and games and simulations in terms of student performance. However, 22 of the 68 studies demonstrated that the use of games and simulations enhanced student performance, and 12 studies indicated that students reported more interest in games and simulations than in traditional classroom instruction. Ricci, Salas, & Cannon-Bowers (1996) further explained that although games consistently have been found to provide a more interesting approach to learning than the traditional classroom environment, games did not necessarily provide a more effective training approach. In Klein and Freitags' study (1991), they indicated that several researchers proposed instructional games can motivate learners in a practice setting. They thought that games could provide extrinsic motivation for iterative practice and that games could be incorporated into instruction to enhance student attention. Games were motivational because they generated enthusiasm, excitement, and enjoyment and because they required students to be actively involved in learning. Stewart (1997) even made a statement that games could be effective instructional tools that entertain while motivating. Dempsey, Rasmussen, & Lucassen (1994) further suggested that technology-based instructional gaming has a wide spectrum of utility for learning. Ricci, Salas, & Cannon-Bowers (1996) defined computer-based gaming as a "rule-governed, goal-focused, microcomputer driven activity incorporating principles of gaming and computer assisted instruction."

Educational computer games and students' motivation to learn

The purpose of educational computer games is of course to teach, but many teachers found computer games a powerful motivator for initiating the learning process (Stewart, 1997). Students can be focused on the instructional content using an alternative learning mechanism, playing games, to the instructor. More research indicates that using gaming techniques in multimedia design allows students to become actively involved while making the session enjoyable (Metcalf, Barlow, Hudson, Jones, Lyones, Munfus, & Piersall, 1998). Children's interest in computer games and technology may be harnessed to good educational use (Fisher, 1994). The goal is to maintain the student's interest while increasing her/his skills and knowledge. Since learning occurs with repetition, a trainer wants a student to be motivated to come back to the game often. Educational software disguised as games will capture and hold a student's interest. Software that entertains will more effectively communicate its educational message. Compared to learning by rote, learning with colorful, dynamic computer screens will prevail every time (Millman, 1992). Educators should try to create learning environments in which students are allowed to make choices, initiate activities, and view learning as a celebration (Murphy & Thuente, 1995). The impact and implication for the educational context is as Dorman (1997) stated that, the expectation by students, all learning must take a gaming approach and be fun. The idea is to entertain education by edutainment media. Teachers and educators can make ultimate use of novel computer games engage classroom learning with more enjoyable perspectives and with better student motivations. Moreover, Evans (1996) also stated that students' academic performances were not necessary improved because of using computer games. Rather, computer games serve a different purpose. Games are supposed to be fun, get students' attention, keep students on task, and motivate them to be active learners.

Edutainment and the learning environment

Educational software in terms of edutainment, not limited to drill and practice for individual students, supports individual learning activities. While interacting with the educational software, students are taking their own paces to learn and construct their own understandings of the instructional messages that the software introduces. It corresponds to the ongoing move towards more student-centered learning, a move that has been steadily accelerating since the late 1960s (Ellington, 2000). Moreover, adopting computer edutainment to engage students to think and to learn is also an approach of constructivist learning. According to constructivism, the process of how students create meaning and knowledge of the reality is the major concern of the constructivist learning approaches. Instead of focusing solely on individually cumulating the acquisition of facts related to specific subject areas, students have more chances to work in groups and do tasks collaboratively. Students are engaged in making and evaluating their queries to solving complex, authentic problems together. They construct their knowledge based on their interpretations of instances in accordance with the social standards and regulations.

The emergent phenomenon

By reviewing statistics numbers and literature research articles, we found although more computers are available to students, the access and training are not consistent. There have been many attempts to understand patterns of technological adoption in education (Dalton, 1989; Dwyer, Rignstaff, & Sandholtz, 1991). However, the answer remains uncertain on how technology is

used, how much it is used, and whether what exists is broken, worn out, or still in unopened boxes (Mehinger, 1996). In addition, adoption and selection of computer games are not required and uniformed to every school. There are no set standards and requirements for teachers to use computer games within or between schools. The choices of the kinds of computer games and simulations schools choose vary greatly. Although people are aware of the increasing popularity of computer games and their abilities to facilitate teaching and motivate learning, there are still obstacles of utilizing educational computer games in schools in terms of hardware infrastructures, software design and availability, and teacher training.

Hardware

Despite the number of students per computer has decreased to five students per computer in 2000 (QED, 2001), most regular classrooms only have one computer available for instruction and mostly for the instructor to use. In other words, it is impossible for the whole class to work with an educational computer game in a regular classroom where hardware is insufficient to provide the opportunity. Therefore, the engagement of computer games for instruction must be taken place in computer labs, whereas time logs of computer labs are full and in use most of the time. Consequently, the availability of hardware is not ready for teachers to apply educational computer games into their regular teaching strategies. The availability of hardware at this point of time can only allow educational computer games as the supplemental instructional materials or extra instructional activities to students. To individual teachers who likely are eager to utilize computer games to facilitate and motivate students' learning, it is not practical to happen in the context of K-12 schools so far. Another problem is that there is a huge amount of outdated computers that are still serving in K-12 schools but cannot run educational computer game software. Glennan & Melmed (1996) indicated in the RAND report that despite there is a rapid growth of innovation and purchasing of computers, the average school still makes limited use of computers and substantial numbers of schools have very limited access to technology of any kind. The platforms in schools are seriously outdated and waiting for replaced.

Software

When choosing educational software to use, teachers usually find it is difficult to have good quality software with desired content specified. Moreover, there are always not enough funds to purchase software. Glennan & Melmed (1996) pointed out that the education software market has had a rapid expansion in home education software; however, the market for school-based content software is modest and comparatively stagnant. Quality content software for K-12 schools is not broadly available since home edutainment materials do not always or readily translate to the classroom. They further explained that the economics of the school market do not work for software developers. It is very critical to gain profits on developing quality content software targeted at school markets. Schools spend very little on software. According to MDR's annual survey of 2001, schools spend 20% of their technology budget on software and spending toward hardware accounts for 67% of total technology spending. The shortage in content software persists. The development of content software for use in schools is a difficult challenge.

Teacher training

When technology is deeply introduced to a school, teachers are required to take new roles and learn new skills. However, research indicated that neither the initial preparation of teachers nor the current strategies for continued professional development have been effective in developing these new requirements (Glennan & Melmed, 1996). Use of technology to significantly affect classroom practice tends to be limited to small groups of teachers who are excited by the potential that they feel technology has to motivate their students or to access new resources (Glennan & Melmed, 1996). Most teachers have little formal instruction on how to use technology or how to select proper types of software to help them teach. The lacks of continual teacher training on technology and supports on utilizing technology have made some teachers with novice technology competence step back to what they are more familiar with, the traditional instruction method. According to MDR's annual survey of 2001, average schools devote 14% on professional development. There must be many schools allocate less than 14% of the whole technology budget on professional development. A survey revealed that teachers are less likely to have had training in more advanced technologies, such as multimedia computers and the Internet (Jerald, 1998).

Conclusion

Despite more and more educational software are getting available with good qualities in the market and despite the positive stimuli that educational software brings to students' learning, the fundamental focus should be whether or not the schools, teachers are ready to utilize it to facilitate teaching and learning in terms of hardware infrastructure, software adaptation, and teacher preparation. As Glennan & Melmed (1996) stressed there are two particularly important incidences, equipping teachers to effectively exploit technology for the benefit of their students and assuring a plentiful supply of high-quality content software. The readiness of all aspects is the key to the successful utilization.

References

Becker, H. J. (1992). How our best computer-using teachers differ from other teachers: Implications for realizing the potential of computers in schools. Unpublished manuscript, University of California, Irvine.

CEO Forum (1997). 1997 national STaR assessment. On-line Available: http://www.ceoforum.org/downloads/97report.pdf.

CEO Forum (2000). School technology and readiness report. On-line Available: http://www.ceoforum.org/downloads/report3.pdf.

CEO Forum (2001). Key building blocks for student achievement in the 21st century. On-line Available: http://www.ceoforum.org/downloads/report4.pdf.

Cubam, L (1997). High-tech schools and low-tech teaching. On-line Available: http://www.edweek.org/ew/vol-16/34cuban.h16.

Dalton, D. (1989). Computers in the schools: A diffusion/adoption perspective. Educational Technology, 29 (11), 20-27.

Dempsey, J. V., Rasmussen, K., & Lucassen, B. (1994). Instructional gaming: Implications for instructional technology. (ERIC Document Reproduction Service No. ED 368 345).

Dorman, S. M. (1997). Video and computer games: Effect on children and implications for health education. Journal of School Health, 67 (4), 133-138.

Dwyer, D., Rimgstaff, C., & Sandholtz, J (1991). Changes in teachers' beliefs and practices in technology-rich classrooms. Educational Leadership, 48 (8), 45-52.

Ely, D. P. (1996). Trends in educational technology. Syracuse, NY: ERIC Clearinghouse on Information & Technology.

Evans, A. (1996). Who cares if it works? Is it fun? The Times Educational Supplement no4174 (June 28 '96 supp Update), 40.

Fisher, A. (1994). The end of school? Popular Science, 244 (1), 68-71.

Fisher, M. M. (1997). The voice of experience: Inservice teacher technology competency recommendations for preservice teacher preparation programs. Journal of Technology and Teacher Education, 5 (2/3), 139-147.

Garard, D. L., Hunt, S. K., Lippert, L., & Payton, S. T. (1998). Alternatives to traditional instruction: Using games and simulations to increase student learning and motivation. Communication Research Reports, 5 (1), 36-44.

Glennan, T. K. & Melmed, A. (1996). Fostering the use of educational technology: Elements of a national strategy. On-line Available: http://www.rand.org/publications/MR/MR682/contents.html.

Grelder, M. E. (1992). Learning and instruction theory and practice. New York: Macmillan Publishing.

Hancock, V., & Betts, F. (1994). From lagging to the leading edge. Educational Leadership, 51 (7), 24-29.

Jerald, C. D. (1998). By the numbers. On-line Available: http://www.edweek.org/sreports/tc98/data/exsum.htm.

Klein, J. & Freitag, E. (1991). Enhancing motivation using an instructional game. Journal of Instructional Psychology, 18 (2), 111-117.

Koontz, F. (1992). An assessment of teacher trainees' attitudes toward selected instructional media. In Proceedings of Selected Research and Development Presentations at the Convention of Association for Educational Communications and Technology. (ERIC Document Reproduction Service No. ED 348 007).

Leggett, W., & Persichitte, K. A. (1998). Blood, sweat, and TEARS: 50 years of technology implementation obstacles. Tech Trends, 43 (3), 33-36.

Mehinger, H. (1996). School reform in the information age. Phi Delta Kappan, 77 (6), 400-407.

Metcalf, K. K., Barlow, A., Hudson, L., Jones, E., Lyons, D., Munfus, L., & Piersall, J. (1998). Play it again, Sam! Adapting common games into multimedia models used for student reviews. Journal of Interactive instruction development, 10 (4), 24-33.

Millman, H. (1992). The games users play. Compute, 14 (1), 110.

Murphy, V. & Thuente, K. (1995). Using technology in early learning classrooms. Learning and Leading with Technology, 22, 8-10.

National Center for Education Statistics (NCES) (1997). Back to school report. On-line Available: http://nces.edu.gov/ccd/pubschuniv.html

National center for Education Statistics (NCES). (1997). Advanced telecommunications in U.S. public and elementary schools, fall 1996. On-line Available: http://nces.ed.gov/pubs/97944.html.

National Center for Educational Statistics (NCES) (1999). Teacher quality: A report on teacher preparation and qualifications of public school teachers. Washington, DC: Author.

National Council for the Accreditation of Teacher Education (NCATE) (1994). NCATE standards: Unit standards. Washington, DC: Author.

Quality Education Data (QED) (2001). QED online catalog. On-line Available: http://www.qeddata.com/technology.htm.

Randel, J. M., Morris, B. A., Wetzel, C. D., & Whitehill, B. v. (1992). The effectiveness of games for educational purposes: A review of recent research. Simulating & Gaming, 23 (23), 261-276.

Ricci, K. E., Salas, E., & Cannon-Bowers, J. A.(1996). Do computer-based games facilitate knowledge acquisition and retention? Military Psychology, 8 (4), 295-307.

Roblyer, M. D., Castine, W. & King, F. J. (1988). Assessing the impact of computer-based instruction: A review of recent research. New York: Haworth Press.

Schrum, L. (1995). Educators and the Internet: A case study of professional development. Computers and Education, 24 (3), 221-228.

Schrum, L. (1999). Technology professional development for teachers. ETR&D, 47 (4), 83-90.

Schrum, L., & Fitzgerald, M. A. (1996). A challenge for the information age: Educators and the Internet. International Journal of Educational Telecommunications, 2 (2/3), 107-120.

Scrogan, L (1989). The OTA report: Teachers, training and technology. Classroom Computer Learning, 9 (4), 80-85.

Selwyn, E. (1997). The continuing weaknesses of educational computing research, British Journal of Educational Technology, 28 (4), 305-307.

Stewart, K. M. (1997). Beyond entertainment: Using interactive games in web-based instruction. Journal of Instruction Delivery Systems, 11 (2), 18-20.

Tomposon, A. D., Simonson, M. R., & Hargrave, C. P. (1996). Educational technology: A review of the research. (2nd ed.). Washington, DC: Association for Educational Communications and Technology.

Trotter, A. (1997). Training called key to enhancing use of computers, poll finds. On-line Available: http://edweek.org/ew/vol-16/29jost.h16.

U.S. Department of Education (1996). Getting America's students ready for the 21st century. On-line Available: http://www.whitehouse.gov/WH/EOP/OP/html/edtech/html/edtech.html.

U.S. General Accounting Office (1995). School facilities not designed or equipped for the 21st century.

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

Reproduction Basis

[X] This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

[ ] This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").