# USING OPEN SOURCE SOFTWARE (OSS) TO ENHANCE A TEACHER TRAINING PROGRAM

By LEE. E. ALLEN, ED.D
University of Memphis
Memphis.

ABSTRACT.

*The Memphis Literacy Academy (MLA) is a partnership between the Memphis City Schools and The University of Memphis' College of Education, with the primary focus on urban education. The purpose of the MLA is to train elementary teachers and principals in urban schools in grades K-3, and special education classrooms from selected Memphis schools on research-proven "comprehensive reading" instruction practices for urban children (Cooter, 2004).*

*The principal investigators for the grant funding the MLA partnership incorporated a technology component to support, enhance, and facilitate communications for the MLA program. Several options were researched before a decision was made as to the nature and purpose of the technology to be incorporated into the MLA program. After exploring numerous avenues to accomplish the technology component integration, the decision was made by the MLA project members to utilize the open-source software (OSS) course management platform, Moodle.*

## INTRODUCTION

The Memphis Literacy Academy (MLA) initiative began in 2004-2005 as a partnership between the Memphis City Schools and The University of Memphis' College of Education, and whose primary focus is urban education in reading and literacy. The purpose of the MLA is to train elementary teachers and principals in urban schools in grades K-3, and special education classrooms from selected Memphis schools on research-proven "comprehensive reading" instruction practices for urban children (Cooter, 2004).

The principal investigators for the grant funding the MLA partnership incorporated a technology component to support, enhance, and facilitate communications for the MLA. Several options were reviewed before a decision was made as to the nature and purpose of the technology to be incorporated into the MLA program.

### Technology Component

The primary goal of the technology component is to implement a system of maintaining and retaining institutional memory and knowledge management during the implementation of the project, and also in finding solutions to address the areas of instructional course management and participant communications.

Particular care was taken to review and ultimately select technologies that would be regarded as user-friendly and not overly intrusive in terms of time, commitment and the users' learning curve. Such issues typically accompany technological implementations in public education environments, and are compounded by the reluctance of school personnel to embrace the time and effort required of technology-enhanced models (Wheeler, 2003). The introduction of new technological systems may also appear threatening in a work environment that is habituated to more traditional paper-and-pencil processes (Deal & Peterson, 1998).

Basing the technology and communication needs on the capacity-building models developed by high-technology corporations to improve the expertise of scientists and other professionals (Applehans, Globe, & Laugero, 1999), the project implementation team researched a variety of relatively user-friendly technologies available.

### Open Source Software

After investigating numerous Web-hosted course management solutions and researching the ramifications of constructing such a course management website independently, a proposal was

made by the MLA project technology consultant to utilize open-source software (OSS) for the following reasons:

? Ready availability of OSS via Internet sources.

? Costs are minimal due to free availability of OSS. *

? Technical assistance and support is enhanced by formal and informal communities formed to discuss and resolve technological issues (Lerner & Triole, 2000).

* Costs associated can include domain name creation, Internet hosting by 3rd party vendors, and expenses incurred for technical resources and consulting.

### Moodle

Upon making the decision to use OSS, the next question to be resolved by the MLA project implementation team was to select the open source course management software itself. Several choices were readily available, and after exploring the desired features (Depow, 2003), the decision was made to use the server-based OSS course management software Moodle (Figure 1). Moodle (Modular Object Oriented Development Learning Environment) is an open source course management software system and instructional vehicle currently being adopted as an online learning environment at a growing number of universities, colleges, and K-12 school systems.

The website and course management system created with Moodle for the MLA is used by the participating instructor/coaches, teachers and administrators to enhance printed materials and in-class instruction by providing an interactive workspace for communications, discussions, and instruction (Figure 2).


*Figure 1. MLA Homepage in Moodle.*


*Figure 2.*
*MLA example of interactive workspace in Moodle.*

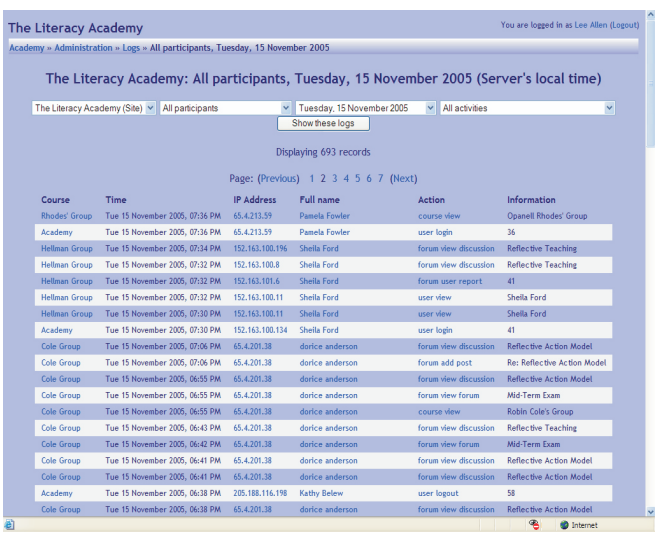


*Figure 3.*
*MLA example of tracking participation in Moodle.*

Another key aspect of the MLA Moodle site is the successful use of the Moodle features as a clearing house for information pertinent to the Memphis cohort, and as a means of tracking information (Figure 3).

### Participants

The participants of the MLA initiative are teachers and principals employed by the Memphis City Schools in Memphis, Tennessee. Despite a relatively robust technological and communications infrastructure in the Memphis public schools, teachers and administrators are often identified as lagging in the frequent use of technology for instruction or communication (Picciano, 2001). Because of such an identified lack of technological facility among school instructional and administrative participants in the MLA project, the incorporation of a technological component during the implementation of the MLA training and coaching phases was perceived by the project directors as critically important.

### Methodology

The primary goal of this project is to support the Memphis Literacy Academy and document the processes and participants' progress in satisfying the Memphis City Schools and the University of Memphis' mission to gather research data in academic areas. The increasing use of technology to assist in instruction, documentation, evaluation, and knowledge management in itself is worthy of appropriate research-based evaluation. Statistical data, whether quantitative or qualitative, will assist in the long-term development and/or refinement of university programs (Yin, 1994).

This project creates possibilities for gathering research data in specific areas of technology and instruction, aligned with ongoing and prospective academic objectives and scholarly goals. While several surveys have been developed to gauge the impact of online instruction for educators (e.g., TTQ, TSA, LoTI), the instrument the researcher will adapt for gathering data from the participants will be the Concerns-Based Adoption Model (CBAM) instrument for gauging users' Stages of Concern (SoCQ) in adopting a technology during the course of a program implementation (Hall et al., 1998).

### Anticipated Outcomes

The data obtained from the responses will assist the MLA project implementation team in the study, evaluation, and examination of the potential benefits to their individual technological knowledge base, incorporating technology in future training courses, the benefits of using technology in developing training curricula that addresses and enhances current technology skill sets, and anticipating the future needs of the Memphis Literacy Academy.

### Conclusion

The research findings will be used to assist the participants, and potentially other teachers and administrators, in the preparation and planning for similar technological implementations and their impact on the use of such technology, anticipating participant concerns and therefore increasing the probability of successful future implementations.

### References:


Applehans, W., Globe, A., & Laugero, G. (1999) *Managing knowledge: A practical Web-based approach*. Reading, MA: Addison-Wesley.

Cooter, R. & Cooter, K. (2004). One size doesn't fit all: Slow learners in the reading classroom. The Reading Teacher, Vol. 57, 2004

Deal, T. E., & Peterson, K. D. (1998). *Shaping school culture: The heart of leadership.* San Francisco: Jossey-Bass.

Depow, J. (2003). Open Source Software: Two Learning Management Systems. *International Review of Research in Open and Distance Learning, 4*(2). October 2003.

Hall, G. E., George, A. A., & Rutherford, W. L. (1998). *Measuring stages of concern about the innovation: A manual for use of the SoC Questionnaire*. Austin, TX: Southwest Educational Development Laboratory.

Lerner, J., & Tirole, J. (2000). *The simple economics of open source.* (No. NBER Working Paper w7600): The National Bureau of Economic Research, Inc.

Picciano, AG (2001). *Educational leadership and planning for technology* (3rd ed.).

Englewood Cliffs, NJ: Prentice Hall

Wheeler, M. (2003, August). Making the grade? ERP and public schools. *Government Finance Review*, 5257.

Yin, R. K. (1989). *Case study research: Design and*

ABOUT THE AUTHOR

Allen is an Assistant Professor of Instructional Design and Technology, and Special Assistant to the Chair of the Instruction and Curriculum Leadership Department for Online Learning and Technology Integration. Dr. Allen has also served as a school district assistant superintendent for technology in Dallas, TX, and as a technology administrator in Santa Fe, NM. Dr. Allen's primary research interests are technology as a vehicle for organizational/ institutional Change, online learning (eLearning), electronic portfolio development, and situational learning and communities of practice. Courses currently taught include School Change and the Internet and Computers, Technology, Learning and the Classroom.