

# Building An Articulated Culturally Dynamic™ Learning Community of Practice Using MOODLE

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**Abstract:** One of the major challenges confronting global society during the Information Age is building and sustaining scalable, flexible and affordable infrastructure models to support the unique lifelong learning needs of geographically and demographically disparate individuals. This challenge is further complicated by an unarticulated system of formal, informal and non-formal educational providers serving learners in primary, secondary, tertiary and quaternary educational settings. Moodle is an open source course management system that supports *culturally dynamic*™ instructional design for diverse lifelong learners. This pilot will document the development of and explore implications for further study of Moodle's efficacy as a scalable, flexible and affordable virtual articulated *culturally dynamic*™ community of practice – a “micro” learning society that includes schools, universities, communities and businesses.

## Background

During the early 1970s, UNESCO's publication of the book *Learning to Be* sparked international debate around the relevance of developing a global 'learning society' as a primary means to manage the challenges of living in an era characterized by rapid change and transformation:

If learning involves all of one's life, in the sense of both time-span and diversity, and all of society, including its social and economic resources, then we must go even further than the necessary overhaul of 'educational systems' until we reach the stage of a learning society (Faure et al, 1972).

Viable infrastructure models to support lifelong learning would need to accommodate the widest range of unique needs of diverse demographically and geographically disparate learners. The primary barrier to overcoming these obstacles is the existing ineffective and unarticulated system of formal, informal and non-formal providers in primary, secondary, tertiary and quaternary educational sectors. Educational reform efforts to date have rarely targeted systemic change across all of these institutional sectors.

## Literature Review

Review of the literature reveals few modern models for building and sustaining an articulated *culturally dynamic* learning community of practice that facilitates seamless transitions for lifelong learners. However, the historical one-room schoolhouse provides the most adaptable context for framing the articulated model proposed herein. Traditional one-room schoolhouses in isolated agricultural communities provided affordable learner-centered, project-oriented, integrated curriculum.

Teachers in one-room schoolhouses almost never lectured. These teachers knew that there wasn't much they could say simultaneously to a roomful of kids of different ages and stages of learning. And teachers frequently asked students who'd mastered a particular task to help those who were still struggling to learn it (Pflaum, 1994).

In recreating and adapting the one-room schoolhouse concept as a virtual learning community for all ages, any viable model would have to include formal, non-formal and informal learning structures. In today's society that implies developing a diverse learner collective that includes K-12 students, higher education students, alumni and professionals, community members, and instructional staff.

## **Project Rationale**

Twenty-first century learning is greatly influenced by the convergence of sometimes isolated diverse lifelong learners from every sector using web-based technology tools at some level to develop and sustain virtual communities of practice. This virtual network represents the promise of an authentic modern day learning society that seamlessly articulates collaborative learning in pursuit of common purposes or to solve real problems.

Online learning tools and methods can be used to create and sustain a model for an articulated *culturally dynamic*<sup>TM</sup> learning community that bridges the divide amongst diverse learners in homes, schools, regions, institutions of higher education and the workplace. The purpose of this pilot study is to assess the efficacy of Moodle for reconstructing and adapting the one-room schoolhouse model into a virtual articulated *culturally dynamic*<sup>TM</sup> learning community of practice.

## **Research Methodology**

The goal for the virtual articulated *culturally dynamic*<sup>TM</sup> learning community of practice proposed in this pilot project is to broaden and adapt the scope of the historical one-room schoolhouse model. The research will determine whether Moodle can be used as a community-building tool to connect learners of all ages across all settings within a single articulated learning community.

The institutions and organizations involved in this project include learners of all ages across all settings. They have developed relationships through two existing regional learning collaborative programs. The first program is the New York State Education Department's pre-college and collegiate Science and Technology Entry Programs (STEP/CSTEP) to increase the numbers of underrepresented minorities who pursue careers in science, technology and licensed professions (health, engineering, architecture, law, teaching, psychology, social work, etc). The second overlapping collaborative is planning the development of a 21<sup>st</sup> Century Community Learning Center. The project stakeholders represented are public school districts, institutions of higher education, non-profit community based groups, training organizations, and businesses.

The methodology for this pilot study will include a year-long analysis of empirical data collected about the respondent sample's demographics and online behaviors extracted from Moodle logs, discussion threads, reflective journals and other postings, and self-administered survey results. The research will be conducted in three phases:

- *Phase One* will span approximately three months and will focus on collecting and analyzing demographic data from respondents.
- *Phase Two* will span approximately seven months and will focus on collecting and analyzing data about respondents' online behaviors as a learning community.
- *Phase Three* will span approximately two months with the final phase of this pilot study focusing on collecting and analyzing data from final respondent surveys. During this final phase conclusions and implications for the model and further study will be identified.

While the Moodle site has formal e-Courses designed for specific groups within the study, the interface will also include both non-formal e-Courses and informal online social networking opportunities open to all members of the learning community that encourage social interaction across natural groupings.

## **Data Analysis: Respondent Demographics**

At the time this pilot study commenced the user account database included 333 active culturally diverse users enrolled in the EPLearners.com Moodle learning community as follows:

User Type	Total#	#Female	#Male	%Female	%Male
Secondary student	237	142	95	60.0	40.0
Undergraduate	37	17	20	45.9	54.1
Graduate	6	6	0	100.0	0.0
Alumni/Professional	20	6	14	30.0	70.0
Community volunteers	23	23	0	100.0	0.0
Faculty/Facilitators	10	4	6	40.0	60.0
TOTALS	333	198	135		

Thus far, in the first phase of the study, 70 users have submitted enrollment data providing their primary cultural/racial self-identification as follows: 29% African/Black, 15% Asian/Pacific Islander, 14% Caucasian/White, 24% Hispanic/Latino, 12% Multiracial/Other, 6% Native American/Indigenous.

### Limitations

The nature of online learning environments tends to be dynamic as a function of retention, graduation and work-life balance issues. The results of this pilot will significantly be impacted by the degree to which study respondents transition or adapt new user types and roles within the online learning community. This will be a function of how well respondents move beyond their enrollment groups, merging into a larger more diverse community of practice.

While 241 of the respondents (72.3%) consider themselves computer and internet literate, initial enrollment data indicates that only 16 of the 333 respondents (4.8%) have participated in any formal or informal online learning environments. Therefore, for 95.2% of the respondents this pilot study represents their first online learning experience. How well and how quickly respondents develop online learning competencies using the Moodle tool will be a major factor for determining Moodle's efficacy for building a scalable, flexible and affordable virtual articulated *culturally dynamic*<sup>TM</sup> learning community of practice.

### Summary

Over the next seven months data collected about respondents online behaviors will be collected and analyzed in accordance with the criteria necessary for the design of generative learning environments in constructivism and the technology of instruction (Cognition and Technology Group at Vanderbilt, 1992). Building upon that foundation, Dabbagh (2004) further refines the attributes that define a community of practice:

- **Control of learning** is distributed among the participants (e.g. students and instructors) and does not rest in the hands of a single subject matter expert or instructor;
- **Learning activities** are flexible, and modifications are encouraged if they suit the needs of the learner and the group as a whole;
- **Multiple parties interact** and they are united by a shared goal, problem or project, which provides a mission, vision, and focus. Incentives - both intrinsic and extrinsic - are incorporated into the learning environment in order to motivate learners;
- **Learners and Facilitators are committed to the sharing of knowledge**, and to encouraging the generation of new knowledge;
- **Multiple perspectives and alternative explanations** are not only encouraged, but required of learners and facilitators;
- **Investigations and inquiries** cross-traditional disciplinary boundaries;
- **Conceptual and intellectual risk-taking** is encouraged and rewarded;
- **Instructors model intellectual risk-taking** and innovative approaches to problem-solving.

In their UNESCO report, one of the five hypotheses Medel-Añonuevo, Ohsako and Mauch (2001) posited about the connection between learning and life frames this study as more than a mere academic exercise to satisfy intellectual curiosity. They idealistically framed lifelong learning as the panacea to all problems.

Lifelong learning can easily be offered as an appropriate remedy for practically every thinkable crisis people are faced with on both the macro and the micro level, be it poverty (by helping improve economic conditions through programmes that introduce saving and lending systems such as those in Bangladesh), war (through peace education such as in Kosovo, Sierra Leone and Colombia) or sickness (through health education ranging from safe water provision to safe sexual behavior).

This study is an attempt to realize that utopian ideal at some small, practical and replicable level. Moodle is an open source course management system that supports *culturally dynamic*<sup>TM</sup> instructional design for diverse lifelong learners. This pilot will document the development of and explore implications for further study of Moodle's efficacy as a scalable, flexible and affordable virtual articulated *culturally dynamic*<sup>TM</sup> community of practice – a “micro” learning society that includes schools, universities, communities and businesses.

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