

Moodle based individual learning style indication system

I.P. Ratnapala^{1*}, R.G. Rigel² and D.S. Deegalla²

¹*The Computing Centre, Faculty of Engineering, University of Peradeniya, Sri Lanka,*

²*Department of Computer Engineering, Faculty of Engineering, University of*

Peradeniya, Sri Lanka

**iroshinir@pdn.ac.lk*

Learning is an individualistic process which differentiates the preferences of the information acquiring methods. Learning style, the most preferable way of learning and gain knowledge through preferable learning activities can formulate a pleasant and enthusiastic learning environment for the learner. Hence, the learning style is a considerable factor for the sustainability of a learner-centric environment such as online learning. The perception of individual learning style can significantly enhance the learning efficiency. Although several empirical learning style models have been introduced, the Felder & Silverman Learning Style Model, which was formulated by Richard Felder and Linda Silverman in 1988 and revised in 2002, leads the popularity in research.

Learning Style Assessing and Indicating Systems (LSAIS) are required for an effortless reaching to the students. So the most appropriate platform for developing an LSAIS is the institutional e-learning system, where the students experience online learning. Moodle, as an open source Learning Management System (LMS) is the most popular LMS due to its customisability and capability of empowering feasible online learning environment.

This study discusses the development of an Individual Learning Style Indication System (ILSIS) based on Felder-Soloman Index of Learning Style Model. The system has been developed as an extension for Moodle LMS using PHP (Hypertext Preprocessor), a server-side scripting language. ILSIS includes an online Index of Learning Style questionnaire to determine the learning style of a respondent and a Moodle block to display the individual learning style with a recommendation of the best-suited learning approach. The questionnaire was developed using the Moodle Questionnaireplugin, and a Moodle block, named "Learning Style Block" using the Moodle architecture as an external plug in. The learning style block depicts one's learning style automatically after filling the on-line questionnaire in a summary format. Further, it provides a link to a detailed report which elaborates the result according to the fundamentals of Felder & Silverman learning style model. The block has been tested with 100 users, and the results were compared with manually calculated results. The correctness rate is 100%.

Student awareness of their self-learning style and the best learning approach can lead them to select the appropriate learning techniques and materials. Teacher awareness of students' learning style provides the opportunity to group the students with similar learning styles and differentiate the teaching methods. This system can be further developed to create learning style based groups in the Moodle e-learning system.

Financial assistance given by the University Research Grant (RG/2014/23/E) is acknowledged.