**Review of Literature**

**Previous studies**

The corpus of literature on LMS in teacher education concentrates on two aspects: The development of LMS-based teacher education courses, and the eliciting of perception, and attitude of teacher educators and their students on LMS-based learning.

***Development of LMS-based courses for the Pre-service teachers***

Previous studies have reported the development of LMS-based courses for pre-service teachers.

A problem-based learning course was created for the English language teacher trainees on Moodle learning management system in a Turkish University [MP1]/ (Kirkgoz and Turhan 2021).

Papantoni (2019) developed an e-learning course titled ‘Learning Management System: e-Class for the education teacher trainees in Greece. The course was developed on ‘Open eClass’ learning platform, a customized version of Claroline, the famous open-source LMS. [MP-4]. Salekhova, Grigorieva and Zinnurov (2019) described the use of Moodle LMS in teaching content and language integrated learning (CLIL) for the pre-service teachers of Kazan Federal University, Russia.

The paper describes Learning Management System (Moodle) usage in teaching CLIL course to pre-service teachers of Kazan Federal University. The research aim is to explore students' perceptions of learning in a virtual environment while content and language integrated learning (CLIL) with English being a medium of instruction. The results of the survey conducted among 56 students suggest that they found Moodle easy to navigate, useful, and accessible; it supports peer/ and student-tutor interaction and is effective in complementing face-to-face teaching. However, additional results of the survey show that students mostly use Moodle as a repository of materials and a structured set of audio-visual resources relevant to the subject taught in a foreign language. The proposition of implementing more Moodle tools in CLIL will be the aim of further research.

Wah, Keong, Jhee and Lajium (2014) reported the delivery of a Teaching English as a Second Language Course (TESL) in the blended mode for the Malaysia in-service teachers pursuing the Bachelor of Education (B.Ed.) program at the University of Sabah, Malasia. The course consisted of 20 hours of face-to-face instruction and 22 hours of online learning in the form of discussion forum, interactive quizzes, etc. on Schoology, a leading K-12 learning management system.

***Experience, Opinion, Perception and attitude of Pre-service teachers towards technology***

Researchers in the online learning literature have also explored the effects of learner.

The previous studies also assessed the opinion, attitude, skills in using various teach-learning technologies including LMS.

**[MP-1]** Kirkgoz and Turhan (2021) investigated the advantages of a technology-integrated Problem-Based Learning (PBL) course over the traditional model for the English language teacher trainees in a Turkish University. The study used Moodle as the LMS for delivering the course. The teacher trainees who participated in the study opined that the use of Moodle-based LMS for delivering the PBL course made it more interesting. Also, the learning became easier, practical, and time-saving over Moodle.

**[MP-2]** Another study among the pre-service teachers in Turkey revealed frequent computer engagement as a factor determining IT competence of the pre-school teachers. The study also found the IT comptenent pre-service teachers are interested in computer-assisted instruction and they had a positive intention to technology acceptance. The study suggested incorporating activities that enhance frequent computer engagement in the curriculum to make the pre-service teachers more IT competent. They need training in technological innovations and how to use technologies for teaching and individual development.

[**MP-3**] Le and Pham (2021) assessed the perspectives of the student teachers in Vietnam regarding blended learning. The participant teacher trainees studying across the country expressed a positive attitude towards blended learning in general. They acknowledged the quality of teaching, and learning materials and were satisfied with the technological functionalities of the blended learning. With more exposure and familiarity, the students’ positive experience with blended learning may increase.

[**MP-3**] Opportunity for interactions and quality of interactions were an aspect that the respondents did not perceive to differ significantly between blended and traditional learning.

[**MP-3**] 60% perceived increased workload

[MP-4]/ [MP-5]. Papantoni (2019) developed an e-learning course titled ‘Learning Management System: e-Class for the education teacher trainees in Greece. The course was developed on ‘Open eClass’ learning platform, a customized version of Claroline, the famous open-source LMS. The developers took the views and opinion of the course from 45 participant by conducting an online survey using Google form. The course helped majority of the respondents to be effective, productive and gave them more control over the learning activities. They appreciated the user-friendliness, simplicity, ease of use, flexibility and consistency of the e-learning course. It provided the teacher trainees with a pleasant learning experience as they became skilful learners quickly.

[MP-6] Bardakci, Alakurt, Akyuz and Samsa (2010) studied the technophobia tendencies of teacher education students of Ankara University, Turkey. The study participants had low or moderate/high level technophobia tendencies. The study proposed technology-supported practical components in teacher education curricula as the technophobia of the teacher trainees decreased with their ICT experience and computer-related self-efficacy perceptions increased. It will help in developing the readiness of benefitting from technology in the education process by increasing their technical competence.

[MP7] Pongudki, Kortclaimen and Veeramani (2021) tested the attitude of the in-service teachers in Finland towards digital technology before and after they were provided with a digital pedagogy training.

**[MP-1]**

Integrating the PBL course on Moodle helped the participants gain awareness about the new IT.

**[MP-1]**

A few participants experienced Moodle as complicated and confusing

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