EDUCATIONAL DESIGN
OF BLENDED LEARNING SYSTEM

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Abstract :

Blended Learning is described as the blending of traditional face-to-face and online learning paradigms Hrastinski [1]. Lecturers and students, , face various challenges in traditional learning. Furthermore, each Iraqi university has IT facilities such as computers, classrooms, internet, etc… , As a result, colleges must build and manage features of an effective learning environment to reduce traditional learning resources and raise the level of online learning [2].

Therefore, this study aims to propose a blended Learning for Tikrit University based on the university students' needs, culture, and language in the learning process. general Research Design Methodology was used in this study. It contains five steps : awareness of a problem, suggestion, development, test & evaluation, and conclusion. The resulting model indicates that the proposed blended learning system BL includes face-to-face and e-learning, activities, information, assessment, and student feedback.

Key Words: blended learning , learning theories , components , educational design .

التصميم التعليمي لنظام التعلم المدمج

بحث مقدم من الطلبة //   صدام فرحان حامد ,   اسيل مجيد صالح

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مستخلص:

يوصف التعلم المدمج على أنه مزج بين نماذج التعلم المباشر وجهاً لوجه والتعلم عبر الإنترنت [1]. يواجه المحاضرون والطلاب تحديات مختلفة في التعلم التقليدي. علاوة على ذلك ، تمتلك كل جامعة عراقية مرافق تكنولوجيا المعلومات مثل أجهزة الكمبيوتر والفصول الدراسية والإنترنت وما إلى ذلك ، ونتيجة لذلك ، يجب على الكليات بناء وإدارة ميزات بيئة تعليمية فعالة لتقليل موارد التعلم التقليدية ورفع مستوى التعلم عبر الإنترنت [2].

لذلك ، تهدف هذه الدراسة إلى اقتراح التعلم المدمج لجامعة تكريت بناءً على احتياجات طلاب الجامعة وثقافتهم ولغتهم في عملية التعلم. تم استخدام منهجية تصميم البحث العام في هذه الدراسة. يحتوي على خمس خطوات: الوعي بالمشكلة ، الاقتراح ، التطوير ، الاختبار والتقييم ، والاستنتاج. يشير النموذج الناتج إلى أن نظام التعلم المدمج المقترح يتضمن التعلم المباشر وجهاً لوجه والتعليم الإلكتروني والأنشطة والمعلومات والتقييم وتعليقات الطلاب.

الكلمات المفتاحية: التعلم المدمج ، نظريات التعلم ، المكونات ، التصميم التعليمي .

INTRODUCTION

The COVID-19 epidemic, which began in early 2020, led many higher education institutions (HEIs) around the world to cancel face-to-face teaching, close campus facilities, and relocate staff and students to work and learn from home[3]. Because of the pandemic's persistence and the fear of further waves of the virus, many HEIs have decided to continue to offer courses online and/or through a blended learning strategy[4]. Furthermore, blended learning has grown in popularity and demand in higher education over the last decade, and it has become a common teaching phenomenon .However, research suggests that blended learning courses can be structured in a variety of ways, ranging from adding extra online activities to a regular face-to-face course to creating a whole new mixed learning course[5]. With so many blended learning designs to choose from .It's becoming a huge difficulty, particularly for teachers who lack the essential academic preparation and hands-on experience with blended learning, as the great majority of higher education professors do [3]

Although much academic research has proposed and discussed a variety of blended learning design approaches , far less research has attempted to classify and compare these design approaches to identify the benefits and challenges of applying each [6] .As a result, there are worries about varia-

tions in student involvement when it comes to access to digital learning tools at home, particularly high-speed broadband. This is significant because BL design might influence the type of online/blended model that instructors can use or limit student participation with online content [4]

According to Ghazal, et al. [7] A good BL design has a significant influence on students' understanding of the teaching style and learning context, which increases their learning engagement and experience. BL must be constructed differently to handle a large number of pupils .

RELATED WORKS

According to Dakduk, et al. [8]The characteristics that impact BL acceptance at various educational institutions were explored in executive education. The study's purpose was to find out more about the factors that impact whether or not to employ BL in higher education research. According to the authors, gender, age, habit, effort anticipation, experience, hedonic incentive, social effect, performance, behavioral intention, and favorable environments are only a few of the numerous factors that drive BL adoption. The technique used to reach this result was to disseminate an online questionnaire to senior and middle-level managers in Colombia.

When making instructional design decisions and executing them, educators may utilize instructional principles to assist them not only define

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the contents of a course, but also to develop a solid foundation on which to build technology ,Simarmata, et al. [9]. The blended learning course, which was separated into five parts, was created using Merrill's First Principles of Instruction. This guide shows educators how to develop suitable learning styles and preferences depending on their students' learning requirements.

According to Cahyono and Subagja [5]This project's purpose was to develop blended learning modules for higher education. An exploratory design study was conducted with teachers from 69 different academic programs at the University Negeri Semarang. Data was gathered through focused group discussion, observation, a series of pilots, and a debriefing session. The conclusions have to do with basic standards, regulations, and quality control. The work techniques and outcomes are also described in this publication. When building blended learning modules, take into account the characteristics of course contents, learning management system features, supporting facilities, lecturer responsibilities in preparing and aiding the courses, and students' actions and perspectives. This study presents a novel method to online module creation in higher education for blended learning .

In their study Jen and Hoogeveen [10]mention that The purpose of this study is to construct and evaluate a blended learning-based worldwide professional development program for talented educators (i.e., The RITHA program). Design-Based Research was used to test the prototype of this program before it was released. The study's major research focus is on the blended learning design. According to assessment surveys of training participants, participants in the blended learning paradigm were exceptionally happy with their total learning. It was really helpful to have a well-designed course with an instructor who could deliver good training, positive engagement, and useful feedback. According to the data, online course participants want synchronous and asynchronous online activities as well as feedback. The use of asynchronous discussion boards and flexibility appear to be the two most commonly mentioned benefits of blended learning. There were also rumored to be other consequences.

The aim of their study byOktaria, et al. [11]) is to create a high-quality blended learning model Using moodle and an ADDIE development stage,. A blended learning model with components and learning model tools, as well as an e-learning moodle guide for lecturers and students, were developed as a result of this research. Expert validation tests show that the resulting blended learning model is of high quality. This blended learning method can help instructors navigate the challenges of BL, such as the integration process and navigation of essential learning activities, while also aiming to engage, prepare, and support learning that involves both online and face-to-

face activities. Blended learning solutions are also being developed to make it simpler for lecturers to incorporate mixed learning into their teaching methods and for students to engage in blended learning activities.

METHODOLOGY

Research methodology refers to the methods and processes that a researcher employs at various stages of a study. General Research Design Methodology, which was used in this study. It contains five steps, as depicted in Figure(1) : awareness of a problem, suggestion, development, test & evaluation, and conclusion . The subsections that follow go into great detail about each step .

Figure (1): General Methodology for Design Research (GMDR) (Vaishnavi & Kuechler)
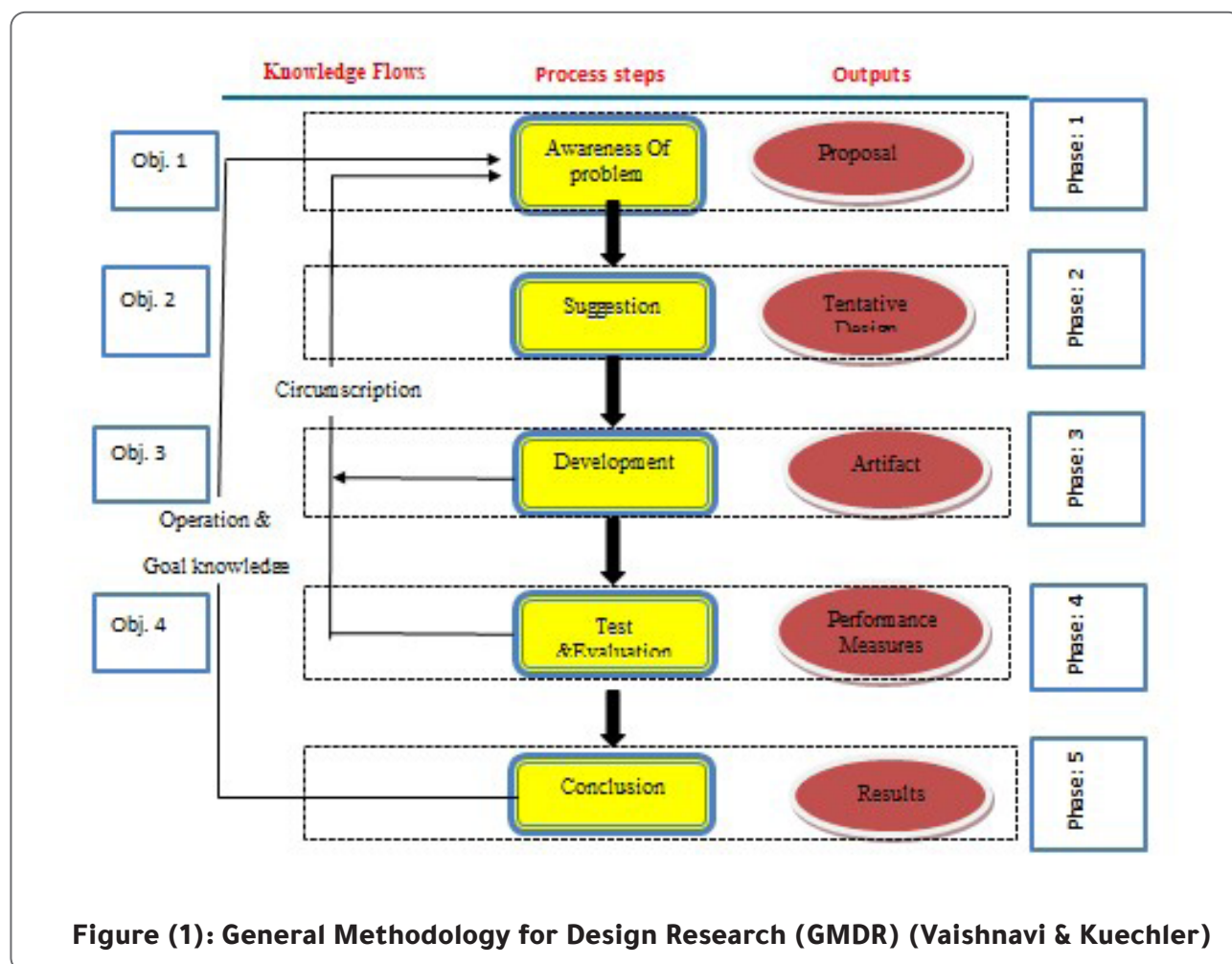
RESULTS &DESCUSSION

Blended learning system in this study developed through use of PHP programming . the result model of blended learning design consist of three main pages(super admin, teacher ,student). Each of these pages contains a set of functions that vary according to the eligibility of each user as shown below.

1. Admin page

This page is considered as a learn-

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ing management system(LMS). The admin has general authority to view all system details. This page contains many functions through which a complete management system is formed that starts with adding the faculties and their information represented by the admin (dean), departments, stag-

es, study materials, professors and students all these details in one interface, which facilitates the use of any of them as shown in the figure (2)This reduces effort and time for employees, increases system efficiency and speeds up the completion of tasks.


Figure (2) Admin page
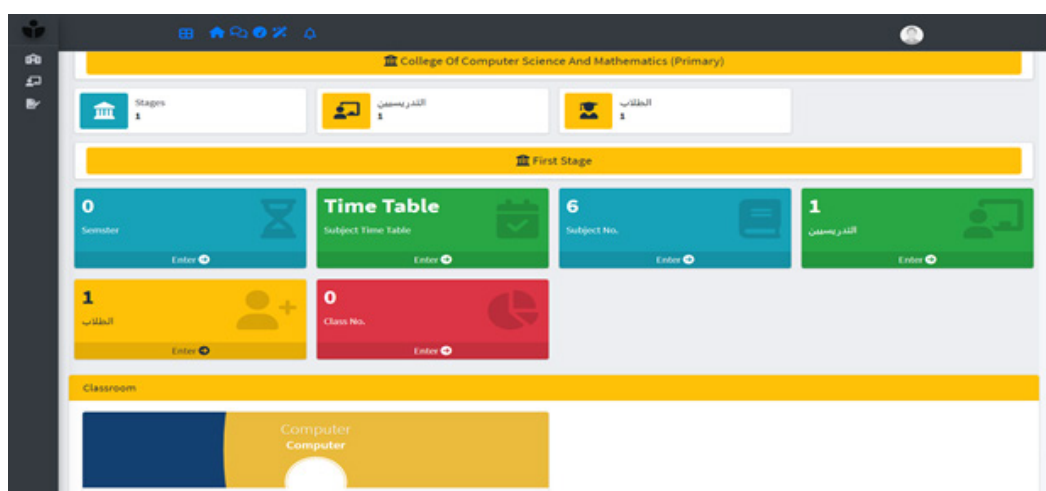
2. Teacher page

in his page teacher can upload lecture (text ,video , PDF). Students can comment on teacher-uploaded lecture through the comment button or send special comment to the teacher

through special message button as shown in figure(3) bellow . Besides, student with student, student with teacher can discuss each other through the discussion form (chat) button in him pages .

Figure (3) lecture part
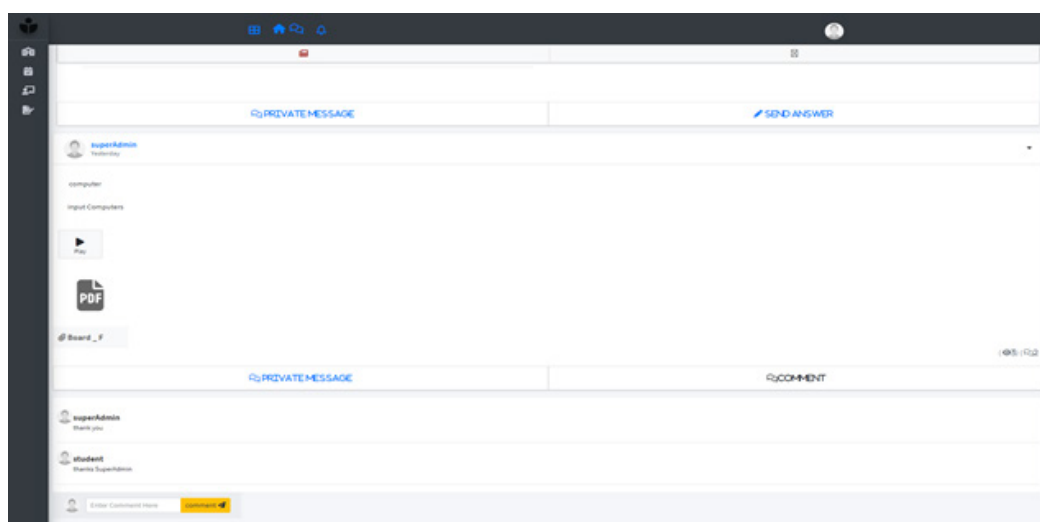
Tasks assigned by a teacher can be uploaded to the blended learning system, to be evaluated by teacher and to give the final assessment of each meeting, the figure (4) below

Figure (4) task part

3. Students page

This page contains a number of functions that correspond to the nature of the student's work, the most important of these functions is that
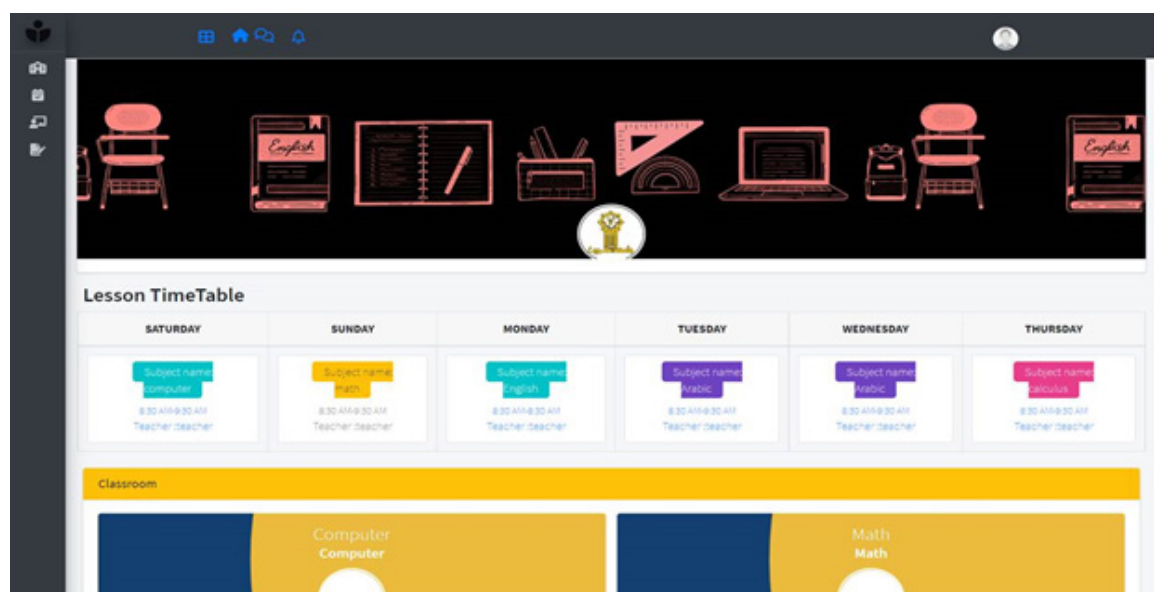
3.1 lesson time table:

This schedule contains the weekly lessons for all academic subjects, where the name of the subject and the time of the lecture are mentioned in addition to attaching a link to the subject if the lecture is electronic or the class number if The lecture was in attendance.

3.2 Class Room:

Through this function, student can access the Classes by selecting My Classes and then adding the code for each Class. The classes then appear with the lesson schedule in the same interface figure(5). When choosing one of the classes, the lectures and the required tasks appear to the student.

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Figure(5) classroom part

The student can comment and interact with the lecture, whether it is text or image, through the comment button as shown in figure(6). Also for video lecture, the student can choose a specific period of minutes and comment on it or inquire about it. This comment is shown to the teacher through notifications.
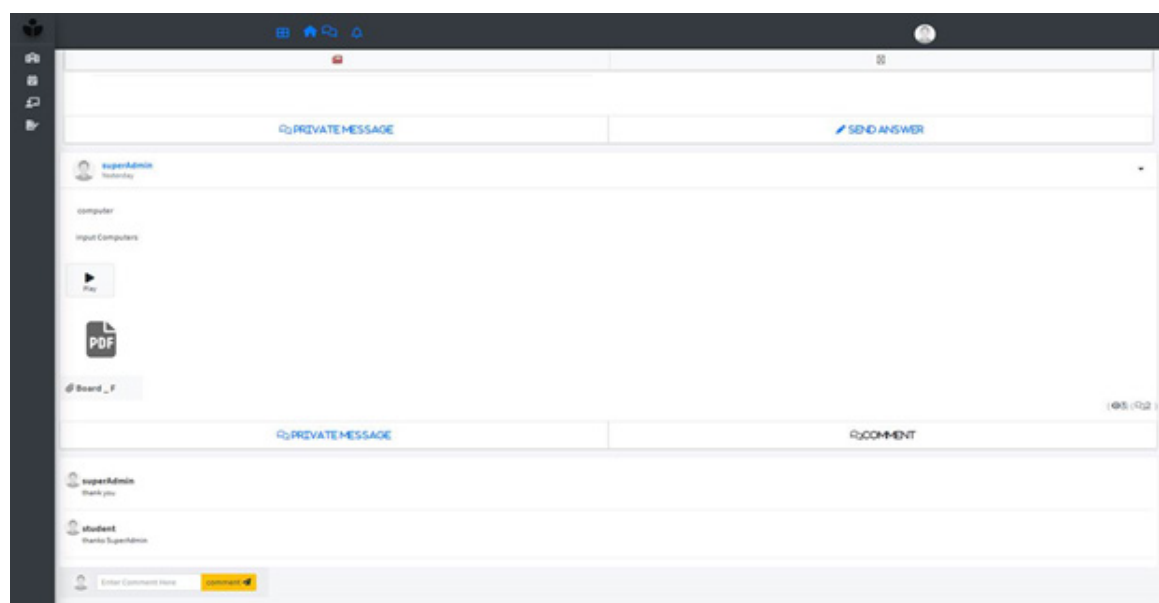
Figure(6) students lecture part

3.3 Home works: Through this job, the student can know the tasks assigned to him and then attach a file containing the solution according to the type of question.as shown below in figure(7)
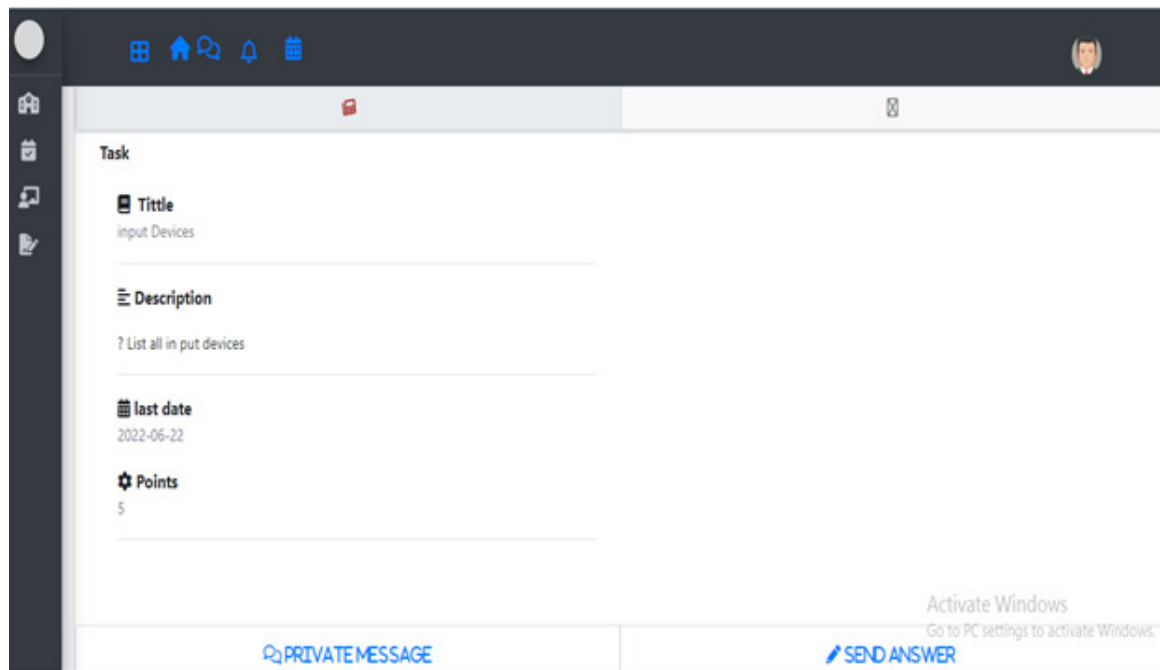
Figure(7) students task part

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