Factors And strategies influencing online course design decisions: A study of ENCGO students' perception of the online course design

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Abstract.

Designing online learning in this digital age requires a mindset that places a greater emphasis on how learners respond cognitively, emotionally, behaviorally, and socially in a dynamic learning ecosystem (Conceicao& Howles. 2021).

Currently, in Moroccan higher education, we need an actionable framework that fosters effective online course design decisions through using recent research on the learner experience design. The purpose of this study is to provide Moroccan teachers with an understanding of the possible use of effective strategies in designing their online course; namely: participatory design, visual design, emotional design, design thinking. Moreover, the study investigates on Moroccan business school ENCGO student's perception of the course design. The User Experience Design for learning model (UXDL Zen, P.2017) is used as a methodological framework. Students feedback illustrates how they perceive and see the changes and how the changed approach in design influences their motivation to learn. Students needs and goals change over time, technology also changes, thus to reach a deeper and meaningful learning outcome in online environment, and a greater learner engagement, new mindset and flexibility are required in designing online courses, through preserving and being in harmony with the Moroccan students needs and skill demand.

Keywords: User Experience Design, emotional design, visual design, design thinking.

1   Introduction

Change drive higher education institutions to innovate and act in agile and flexible ways. Teachers and course designers need also to embrace these changes. These changes require not only awareness of the present context of higher education but also

a recognition of the dramatic evolution of artificial intelligence and the dynamic learning ecosystem. In this dynamic learning ecosystem, learners have access to experts, social networking and collaboration, thus the practice of making content available online to learners, without any creativity in design, is not compatible with a dynamic learning environment and the learner characteristics of today.

Whereas conventional instructional design tends to be instruction and content centric; learning experience design focuses on the learner and learner needs and tasks. The study aimed to address the following research questions:

- What are the factors that influence teachers' decisions to design a holistic and meaningful course to meet the students' demand?
- how can we apply the UXD model to create a learner-centered design?
- What are the students' perceptions towards the changed online course design in the LMS Moodle platform?

2   Review of literature

The concept of a learner centered approach has been a major theme in educational psychology research since the 1990s. Several learner-centered principles have been developed that focus the design from the perspective of the learner. In a study by Zhang et al (2020), researchers compared the effectiveness of a learner-centered design approach with a teacher-centered approach in online learning. The results showed that the learner centered design led to higher level of engagement, motivation, and learning outcomes framing students. In other studies, by lai et al (2020), and Rath et al (2020) both of them examined the impact of Learner centered approach in an LMS environment. The results showed that this approach led to higher level of satisfaction and motivation.

3   Theory and approach

3.1   User Experience Design: UXD Model

In the field of UXD, the term experience is a key transformational concept (Garret, 2011); in which the emphasis is put on creating a learning experience in which the learners are deeply invested at the cognitive, emotional, social and behavioral levels.

According to Kolb and Kolb (2009), "Learning is a holistic process of adaptation. It is not just the result of cognition but involves the integrated functioning of the total person-thinking, feeling, perceiving and behaving" (p.43). UXD involves gathering and incorporating user input and behaviors to design experiences that they find valuable.

Additionally, the user Experience (US) honeycomb (Morville,2007) which was then revised and adapted by Zen, P. 2017) is a widely accepted framework that draws on

UXD to create valuable user experiences. The framework suggests that for an online experience to be valuable, it should be useful, accessible, credible and desirable.

3.2   Factors Influencing Online Content Design Decisions

Simone C.O.Conceicao& les L.Howles (2021) identify five kee factors to consider when making design decisions about learner-content interaction: learning objectives, learner characteristics, content type, instructional strategies and technology affordances. The goal of these factors is to create an integrated and impactful learning experience and also to prepare learners emotionally, cognitively and socially through keeping them at the center of online learning activity design.

Social interaction through platform communication tools can also serve as the medium for keeping learners motivated and intellectually curious to learn, emotionally connected and engaged in the course, and actively participating in the design of the course. In this context, the teacher becomes course designer and should play an important role in designing and managing social interaction through creating positive climate and emotional connections, using personalized communication these strategies can influence learner motivation and engagement.

4   Course design

As stated above, learning experience requires an adaptation of a learner-centered mindset, through being sensitive to respond to the emotional, cognitive and social needs of learners. My pedagogical approach was to create diversity and variation in my course through alternating between course content (business English), entrepreneurship skills and career coaching. The online course was delivered in the institutional LMS Moodle platform of the University, the design prioritizes clear learning objectives, well-structured and visual design, variety of materials; peer collaboration and forum discussion threads. The implementation of the design depends on the four following strategies:

Table.1presenting the four strategies design

Emotional design	Participatory design	Visual design	Design thinking
Coaching in forum	Collaborative Wiki project, Glossary	Infographics & aesthetic interface, images, mind-map	Use of Collaborative Canvas

5   Method

The methodological framework of this study aligns with the principles of UXD Model.

The four prominent factors of the UXDL model are the following:
Usefulness: ease of use and access
Usable: responding to learners needs
Credible: building trust
Desirable: conveying an emotional connection with the learner

The study is a descriptive case study which uses two mixed methods: quantitative through the survey and qualitative through the in-depth focus group interviews. The investigation involves the analysis of both the online survey and face to face interviews on the students' perceptions of the online course design.43 of students completed the survey. The first part of the questions involves the application of the four major topics of the UXDL model: perceived ease of use and accessibility, perceived usefulness, perceived credibility and perceived desirability. The second part of the questionnaire was conducted through the use of likert-type model that allows students to choose their preferable platform tools and activities that respond to their needs. The questionnaire was distributed and collected in the form of Google form with a combination of close and open- ended questions. As for the focus group interview the questions were rather open and based on the factors of design stated above; namely social interactions through participatory design, emotional design reflected in the forum activities; visual design reflected in ease of use and aesthetic interface and finally design thinking reflected in the collaborative and iterative canvas project.

6   Results and discussion

The analysis of the survey and the interview revealed several themes that figure prominently in students' experiences of online learning. Participants identified several design factors that they value and that help keep them engaged and interested in the online course, these factors are aligned with the four principles of the UXDL Model: The findings are presented in the following table:

Table. 2 Students' perception of the course design

Perceived ease of use & accessibility	Perceived usefulness	Perceived credibility	Perceived desirability
81,4%	76,7%	69,8%	69,8%

With the use of descriptive statistics and Confidence intervals[1], we have calculated the range of values within which the true population proportions for each factor lie. Here are the 95% confidence intervals based on the percentages above:

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[1] Confidence intervals are a range of values that are likely to contain the true value of a population parameter with a certain degree of confidence.

Perceived accessibility: 65.3% to 96.7%
Perceived usefulness: 60.8% to 92.6%
Perceived credibility: 51.9% to 87.7%
Perceived desirability: 51.9% to 87.7%

Overall, these results suggest that a majority of students who responded to the survey perceive the online course design as accessible, useful; credible and desirable.

Given that the sample is 43 I have completed the survey with an interview, the results are as follows:

Perceived ease of use and accessibility: students liked easy navigation and the flexible transparent design, this is due to their familiarity with the platform tools. Students also showed clear preferences to the diversity of the platform tools, they feel free to make the course at their own pace.

Perceived Usefulness: from the interview; several students highlighted that the course was useful; for instance, they liked having courses segmented into shorter grain. They liked the granular content of the Business English course which alternates with the self-awareness and coaching course. They also found the design thinking reflected in the collaborative canvas in which they can contribute in changing the design of the course a new idea and feel involved in decision making of the course.

Perceived credibility: When content topics and tasks are aligned with students' goals, this influences students' trust on the course. The Visual design, and easily accessible course features makes the learner feel comfortable.

Perceived desirability: it is the design that convey an emotional connection with the learner. In my course, the design of three types of forum discussion threads and the creation of coaching corner forum has a positive influence on my learners, they connect emotionally with this tool. One student reported that "The Coaching corner in the forum help me to overcome my stress and isolation", another student added:" The forum assisted me in understanding other point of view". "It motivates me along with my teacher feedback and online presence".

Generally, they form an emotional bond to the course design and to the learning environment as whole, this is clearly shown in the table below where students value the synchronic tools of the platform tools against the other external communication tools such as Google Meet and Zoom.

Table 3. Students preferable synchronic tools

Chat room	Big blue button	Google meet	Zoom
85%	46%	2,3%	2,3%

The top five preferred asynchronous platform tools were the videos, the PowerPoint presentations, the forum, the quiz and the glossary, the results are shown in the following table:

Table 4. Results of Platform asynchronous tools

Forum	Glossary	Wiki	Videos	Power-point	Quizzes	Messages	
43, 9%	43, 9%	30, 2%	69 ,4%	69, 8%	46, 5%	20 ,9%	

Furthermore, participants reported some of the limitations of the course design which are mainly related to technical problems and internet connections.

Finally, the study attempted to respond to the research questions advanced earlier: firstly, by demonstrating the application of the strategies design during the implementation of the course and secondly, by validating the UXDL principles through our investigation on the student's perception of course design. The findings reveal that the majority of students find the course useful, accessible, credible and desirable. Although this study seeks to validate the UXDL principles; it is just a relative attempt as it needs to be applied on a large sample.

Conclusion

The study focused mostly on the factors and models that can help teachers to decide on their design strategies; while future study could look more closely to the contribution of the emerging technologies in facilitating the online learning and teaching environment. Moreover, the UXDL Model is very helpful as guide, combined with the integrated model of Conceicao & Howles (2021) help teachers create an experience that is more personalized; engaging, and meaningful for online learners. It is a way of thinking holistically about the learner needs and objectives and putting the learner at center of the online design.

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