
From Lectures to Studios and Blended Learning Methods for Teaching HCI

Michalis Xenos

Computer Engineering and Informatics Department
University of Patras
Patras, Greece
xenos@ceid.upatras.gr

As HCI is a complex, multidiscipline and rapidly changing field, educating future scholars and practitioners is a very challenging task [1]. Teaching HCI should balance effectively basic HCI theory as well as hand-on-experience. Although this practice is adopted worldwide, many professors struggle due to lack of appropriate equipment and tools, especially in countries affected by the recent economic crisis. Despite the difficulties, teaching of independent, isolated conceptual entities without offering a coherent conceptual context to provide the student the ability to create meaningful associations and abstractions and subsequently apply the obtained knowledge to increase the quality of interaction should not be considered as effective.

The studio-based teaching concept [2] is a solution for teaching competence in designing interactive objects, but ideally this approach requires students to have attended background courses. In most undergraduate computer science curricula this is not the case since there is a single HCI course with limited classroom hours. In this case, either the students need to actively search and find learning resources to address their knowledge deficiencies [3], or the course has to combine lectures with studio-based activities. In most cases neither is feasible, due to classroom

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hours restrictions and since students fail in critical reading of scientific literature when they don't attend lectures.

A solution toward effective HCI education could be the adoption of appropriate educational strategies and technologies to facilitate the desired hand-on experience, without reducing the focus on the basic HCI theory. Using blended learning strategies, such as flipping the classroom [4] and introducing project-based learning techniques, collaborative learning, gamification, and role-playing techniques could be a viable - and also cost-effective- solution. Combining a flipped classroom approach with a studio-based course, transfers the lectures at the "homework" time, allowing all the classroom time to be used for practical activities.

Toward this goal, we have developed and used tools and techniques for campus-based learning and for e-learning that facilitate HCI education.

Examples of these are the use of 3D virtual worlds to simulate the work of an interaction design team for distance learning students, using cards in a flipped classroom to stimulate interactivity, using "Kahoot!" [5] instead of tests (which are essential in the flipped classroom approach), using tools such as KLM-FA [6] to model interaction scenarios, and using role-playing activities where the students could play several roles of various stakeholders related to HCI design (e.g. the customer, the developer, the usability evaluator in the HCI Lab and the user in the same lab).

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