

研發以智慧眼鏡內建的動眼追蹤互動網，評估閱讀及持續專注力以輔助臨床訓練及服務

教學部

楊盈盈醫師、沈曉津醫師、葉芳妙助理、胡玉貞組員

摘要

根據Youth Truth 的最新報告，比較美國各中小學春季與秋季班學生的線上學習情形，調查中顯示學生對線上教學的看法。近一半的學生認為遠程學習的優勢之一是時間的運用較為靈活並覺得「很有趣」。然而教學者是否注意線上影音訓練教材學習的態度亦至關重要。本計畫研發可評估與改善影音訓練課程之教學品質，且有鑑於以往線上影音教學無法量化學員的重點力、持續力、解決力等主觀的能力，技術團隊預計開發內建影音訓練教材編輯器之AR 智慧眼鏡眼動追蹤儀應用程式，讓使用者配戴智慧眼鏡進行教育訓練。透過在智慧眼鏡上顯示預先編輯好的訓練教材，並配合課程設計者安排之事件與任務演出。訓練過程中希望眼動數據可同步儲存，以供後續分析使用者的觀看行為，並歸納出提高配戴者對於教材的專注度之影響因素與以便改良。也預計在編輯器在影音教材中加入的擾動事件可以偵測出學員線上學習的專心程度，期望透過讓學習者消除干擾事件的互動過程，在人機互動過程中於提高學員對課程的專注度並增加課程趣味性、可稍稍減緩傳統學習模式下學習新知識所帶來的枯燥感並同時有機會評估學員的重點力、持續力、解決力等主觀的能力。

關鍵詞：線上影音訓練教材學習、干擾事件、重點力、持續力、解決力

Abstract

According to the latest report from Youth Truth, the survey compared the online learning situation of spring and fall students in primary and secondary schools in the United States. The survey showed students' views on online teaching. Nearly half of the students believe that one of the advantages of distance learning is that the use of time is more flexible and they find it "very interesting". However, it is also crucial whether teachers pay attention to the learning attitude of online students.

The research and development of this project wish to evaluate and improve the teaching quality of audio-visual training courses. In view of the fact that online audio-visual teaching cannot quantify students' subjective abilities such as focus, persistence, and solution ability in the past, the technical team plans to develop a built-in audio-visual training material editor. The device's AR smart glasses eye tracker application allows users to wear smart glasses for education and training. By displaying pre-edited training materials on smart glasses, and performing events and tasks arranged by the course designer. During the training process, it is hoped that the eye movement data can be stored synchronously for subsequent analysis of the user's viewing behavior, and the influencing factors that improve the wearer's concentration on the teaching materials can be summarized and improved. It is also expected that the disturbance events added by the editor to the audio-visual teaching materials can detect students' concentration in online learning.

It is expected that through the interactive process of allowing learners to eliminate disturbing events, it is expected to improve students' understanding of the course during the human-computer interaction process. Focus and increase the interest of the course, can slightly alleviate the boring feeling caused by learning new knowledge under the traditional learning model, and at the same time provide the opportunity to evaluate students' subjective abilities such as focus, persistence, and solution ability.

Keywords : Online audio-visual training materials learning, interfering events, focus, persistence, and resolution