國立臺北科技大學
互動設計系碩士班

碩士學位論文

擴增實境導航對國小學童學習動機與資訊尋求行為之影響：以擴增實境尋書導航 APP 為例

The Effect of Augmented Reality Navigation on Children's Learning Motivation and Information Seeking Behavior – A Case Study of the Augmented Reality Navigation Application

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摘 要

論文名稱：擴增實境導航對國小學童學習動機與資訊尋求行為之影響：以擴增實境尋書導航 APP 為例

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兒童使用者的認知能力與資訊尋求行為與成人有所差異。本研究結合國立公共資訊圖書館兒童學習中心，利用擴增實境導航 APP 為兒童帶來新穎的科技體驗，透過替身模擬與遊戲，提升兒童好奇心與學習動機，激發自主學習與探索。本研究首先利用文字探勘，發展兒童讀者替身，並利用單因子變異數分析與卡分檢定，探索兒童的資訊尋求行為，接著利用驗證性因素分析與結構方程模式，建構兒童科技接受模式理論模型，最後透過專家訪談，探索擴增實境導航的學習潛力。

研究結果顯示，根據兒童個人特質可歸納出十個兒童替身：認知寶寶、交通飛俠、科學叔叔、數學博士、自然英雄、動物蹦蹦、藝術大師、運動健將、社會祿姆與角色精靈；在兒童資訊尋求行為的來回抉擇行為中，五年級以下的兒童而言，抉擇兩次為記憶負荷的極限；再者，兒童將「尋書怪獸島」視為遊戲，故「認知趣味性」在科技接受模式中扮演重要的影響因子，同時削弱功能導向因子的影響，兒童內在使用態度的高低，僅受到內在動機的驅使，但當兒童考慮使用意圖時，將轉為考慮系統的認知有用性；最後，本研究透過專家訪談法，驗證擴增實境導航的「尋書怪獸島」實為基於遊戲的學習，透過其趣味性可以增加使用意圖，藉由推薦機制，亦可有效引發兒童學習興趣，並持續將發其自主學習。

ABSTRACT

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The cognitive abilities and information seeking behavior of children differ from adults. In this study, an Augmented Reality Navigation Application was installed in the Children's Library of the National Library of Public Information, enabling children to experience innovative technology. Simulation and gaming can enhance children's curiosity and motivation to learn, drawing them to explore the library and leading to more spontaneous learning. First, this study applied data mining to develop child readers' clusters. Following this, the one-way ANOVA and chi-square tests were used to explore the children's information seeking behavior. Next, a Technology Acceptance Model (TAM) was constructed to analyze the usage of the application. Finally, this study used the expert interview method to verify that the application facilitates game-based learning and can increase the intention to use.

The results of the study were as follows: first, based on personal traits, ten child readers' clusters could be summarized. Second, the information seeking behavior indicated that children below the fifth grade sought information that was twice the limit of their memory load. Third, the children regarded the application to be a game. Hence, while "perceived playfulness" was an important influencing factor in the TAM, it weakened the

influence of the function-oriented factor. This implies that a child's initial attitude towards using it is driven by intrinsic motivation, but when the child considers the intention to do so, the system's "perceived usefulness" comes into play. Finally, with the recommended functions, children's interest to learn can be effectively stimulated, ensuring that they continue to learn independently.

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