

# 網路學習者之電腦自我效能於數位學習滿意度與使用意願關聯性研究：以神迷經驗為中介變數

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## 摘要

隨著網際網路的快速發展，加上資訊科技的發展直接影響到教育生態的變遷，便引發出學習的新思維，因此在教學方式上有了新的改革，也就是數位學習(E-Learning)的竄起。目前國內已有許多大專院校自行建置數位學習平台，因此學生使用的比率已越來越高，而數位學習重視的是學習者的自主性學習(active learning)活動層面，而數位學習的特色為藉由網際網路來建構一個真切的社會學習情境與環境(authentic collaborative learning environments)，在此情境與環境中，不但每個人皆是學習者，且每個學習者可不受時空限制地追求個別化與適性化的學習服務與機會。另外，每個學習者對於數位學習有其不同學習風格、特性及電腦自我效能(Computer Self-Efficacy, CSE)，而電腦自我效能則對於個人內在心理的特質與自我學習效能使用的接受度及能力有其影響程度。本研究認為網路世界的神迷經驗(flow experience)應有其獨特存在，在網路的情境下，使用者專注於網路使用並融入於其中、網路所提供的接近真實世界的感受，及使用者融入後對現實環境產生的時空迷失的感覺，應該都與網路神迷經驗之間有重要關聯。由本研究結果在在顯示學習者若在數位學習情境中產生神迷經驗其在學習滿意度與使用意願程度會很高。因此開發系統的人員必須著重於讓學習者對於使用數位學習系統平台的掌控性，讓學習者在數位學習情境中具有高度的電腦自我效能與高神迷經驗，進而使學習在數位學習能更專注、更喜悅，有著高度的學習滿意度與繼續使用數位學習的意願。

關鍵詞：數位學習；電腦自我效能；神迷經驗；學習滿意度；使用意願

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## 參考文獻

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Agarwal, R. and E. Karahanna (2000), "Time Flies When You're Having Fun: Cognitive Absorption and Beliefs about Information Technology Usage", MIS Quarterly, 24 (4), 665-694. 2. Bandura, A. (1977), Social learning theor, Englewood Cliffs, NJ: Prentice-Hall. 3. Bandura, A. (1986), Social foundations of thought and action: A social-cognitive theory, Englewood Cliffs, NJ: Prentice-Hall. 4. Bandura, A. and N. E. Adams (1977), "Analysis of self-efficacy theory of behavioral change", Cognitive Therapy and Research, 1, 287-310. 5. Busch, T. (1995), "Gender differences in self-efficacy and attitudes towards computers", Journal of Educational Computing Research, 12(2), 147-158. 6. Chen, H., R. T. Wigand and M. S. Nilan (1999), "Optimal experience of Web activities", Computers in Human Behavior, 15, 585-908. 7. Chen, H., R. T. Wigand and M. S. Nilan (2000), "Exploring Web users' optimal flow experience", Information Technology & People, 13(4), 263-282. 8. Cisco, (2001), E-Learning at Cisco. Cisco Systems Inc. [http://www.cisco.com/warp/public/10/wwtraining/elearning/edu\\_crate/](http://www.cisco.com/warp/public/10/wwtraining/elearning/edu_crate/) 9. Clarke, G. S. and T. J. Haworth (1994), "Flow experience in the daily lives of sixth-form college students", British Journal of Psychology, 85, 511-523. 10. Compeau, D. R. and C. A. Higgins (1995), "Application of social cognitive theory to training for computer skill", Information Systems Research, 6(2), 118-143. 11. Compeau, D. R., C. A. Higgins and S. Huff (1999), "Social cognitive theory and Individual reactions to computing technology: A longitudinal study", MIS Quarterly, 23(2), 145-158. 12. Csikszentmihalyi, M. (1975), Beyond Boredom an Anxiety, San Francisco:Jossey-Bass. 13. Csikszentmihalyi, M. (1977), Beyond Boredom an Anxiety, second printing. San Francisco:Jossey-Bass. 14. Csikszentmihalyi, M. (1979), "The Concept of Flow in B, Sutton-Smith (Ed.)", Play and Learning, 335-358, New York: Gardner Press. 15. Csikszentmihalyi, M. and I. S. Csikszentmihalyi (1988), Optimal Experience : Psychology Studies of Flow in Consciousness, New York:Cambridge University Press. 16. Csikszentmihalyi M. (1990), Flow :The Psychology of Optimal Experience, New York:Harper Collins. 17. Ellis, D. G., E. J. Voelkl and C. Morrie (1994), "Measurement and analysis issues with explanation of variance in daily experience using the flow model", Journal of Leisure Research, 26(4), 337-356. 18. Fishbein, M. and I. Ajzen (1975), Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research, Boston: Addison-Wesley. 19. Ghani, A. J. and P. S. Deshpande (1994), "Task Characteristics and the experience of optimal flow in human – computer interaction", the journal of psychology, 128 (4), 381-389. 20. Gist, M. E., C. Schwoerer and B. Rosen (1989), "Effects of alternative training methods on self-efficacy and Performance in computer software training", Journal of Applied Psychology, 74(6), 884-891. 21. Greenerger, D. S., L. Cummings and R. Dunhan (1989), "The Impact of Personal Control on Performance and Satisfaction", Organizational Behavior Human Processes, 43, 29-51. 22. Hill, T., N. D. Smith and M. F. Mann (1987), "Role of efficacy expectations in predicting the decision to use advanced technologies: The case of computers", Journal of Applied Psychology, 72, 307-313. 23. Hiltz, R. S. (1994), Virtual classrooms: Learning without limits via computer networks. Norwood, N.J.: Ablex. 24. Hoyer, W. D. and D. J. MacInnis (2001), Consumer Behavior, Boston: Houghton Mifflin. 25. Hoffman, L. D. and T. P. Novak (1996), "Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations", Journal of Marketing, 60, 50-68. 26. Hoffman, L. D. and T. P. Novak (1997), "Measuring the flow experience among web users", Interval Research Corporation, July 31. 27. Jackson, A. S. and H.

W. Marsh (1996), " Development and Validation of a scale to measure optimal experience: the flow state scale " , Journal of sport & exercise psychology, 18, 17-35. 28. Johnson, D. W. and R. T. Johnson (1997), Learning Together and Alone: Cooperative, and Individualistic Learning, Englewood Cliffs, N.J.: Prentice-Hall. 29. Jorn, A. L., A. H. Duin and B. J. Wahlstrom (1996), " Designing and managing virtual learning communities " , Transactions on Professional Communication, 34 (4), 183-191. 30. Kandell, J. J. (1998), " Internet addiction on campus: The vulnerability of college students " , CyberPsychology & Behavior, 1(1), 11-17. 31. Kaplan-Leiserson, E., (2002), E-Learning Glossary. American Society for Training and Development (ASTD) ' s online magazine. <http://www.learningcircuits.org/glossary.html> 32. Khan, B. (1997), Web-based instruction (WBI): What is it and why is it? In Khan BH (ed.), Web-based Instruction. Englewood Cliffs, NJ: Educational Technology Publication, 5-18. 33. Koufaris, M. (2002), " Applying the technology acceptance model and flow theory to online consumer behavior " , Information systems research, 13 (2), 205-223. 34. LeFevre, J. (1988), " Flow and the Quality of Experience during Work and Leisure. In M. Csikszentmihalyi, & I. S. Csikszentmihalyi (Eds.) " , optimal experience: Psychological studies of flow in consciousness. New York: Cambridge University Press. 35. Martin, C. L. (1988), " Enhancing children's satisfaction and participation using a predictive regression model of bowling performance norms " , The Physical Educator, 45(4), 196-209. 36. Marakas, G. M., M. Y. Yi and R. Johnson (1998), " The multilevel and multifaceted character of computer self-efficacy: Toward a clarification of the construct and an integrative framework for research " , Information Systems Research, 9(2), 126-163. 37. Massimini, F. and C. Massimo (1988), " The systematic assessment of flow in daily experience. In M. Csikszentmihalyi, (Eds.) " , optimal experience: Psychological studies of flow in consciousness. New York: Cambridge University Press. 38. Moneta, B. G. and M. Csikszentmihalyi (1996), " The effect of perceived challenges and skills on the quality of subjective experience " , Journal of Personality, 64(2), 275-310. 39. Murphy, C. A., D. Coover and S. V. Owen (1989), " Development and validation of the computer self-efficacy scale " , Educational and Psychological Measurement, 49, 893-899. 40. Novak, T. P., D. L. Hoffman and Y. F. Yung (1998), Measuring the Flow Construct in Online Environments : A Structural Modeling Approach , Unpublished manuscript. 41. Piccoli, G., R. Ahmad and B. Lves (2001), " Web-Based Virtual Learning Environments: A Research Framework and a Preliminary Assessment of Effectiveness in Basic IT Skills Training " , MIS Quarterly, 25 (4), 401-426. 42. Potosky, D. (2002), " A field study of computer self-efficacy beliefs as an outcome of training: the role of computer playfulness, computer knowledge, and performance during training " , Computer in Human Behavior, 18(3), 241-255. 43. Steuer, J. (1992), " Defining Virtual Reality: Dimensions Determining Telepresence " , Journal of Communication, 42 (4), 73-93. 44. Tough, A. (1982), The Adult learning Projects (2nd ed.) The Ontario Institute for Studies in Education. 45. Trevino, K. L. and J. Webster (1992), " Flow in Computer-Mediated Communication: Electronic Mail and Voice mail evaluation and impacts " , Communication Research, 19 (5), 539-573. 46. Wallace, P. (1999), The Psychology of the Internet, Cambridge University Press. 47. Webster, J. and J. J. Martocchio (1992), " Microcomputer playfulness: Development of a measure with workplace implications " , MIS Quarterly, 201-226. 48. Webster J., K. L. Trevino and L. Ryan (1993), " The Dimensionality and Correlates of Flow in Human-Computer Interactions " , Computers in Human Behavior, 9 (4), 411-426. 49. Wolfinbarger, M. and C. M. Gilly (2001), " Shopping Online for freedom, Control, and Fun " , California Management Review, 43 (2), Winter, 34-55.