

Effects of the Industrial Practice Program Based on Reflection-in-action Teaching Approach upon MIS Students

李嘉豐、吳為聖

E-mail: 9805472@mail.dyu.edu.tw

ABSTRACT

Recently, many industrial employers found that most MIS job seekers were fail to meet the enterprise demands although there are huge supply of IS graduates in Taiwan. Due to few universities offer industrial practice programs and the existing industrial practice programs need further improvements, e.g. students cannot cope with the course requirements and lack of evaluation methods for learning outcomes from such programs, redesign of the industrial practice programs has become a critical issue for MIS education. This study aims to implement a reflection-in-action approach for MIS industrial practice program and assess its impacts on student 's practical knowledge. This approach was implemented in a university 's MIS industrial practice course in which 98 students were enrolled. Quantitative and qualitative data were collected during the one year program. Results showed that students perceived positive impacts on knowledge acquisition and affective changes. More students were able to actively learn system design and to solve problems by themselves. Findings provide practical implications for MIS curriculum re-design and evaluation.

Keywords : industrial practice program、 reflection-in-action、 MIS education

Table of Contents

中文摘要	iii
英文摘要	iv
誌謝辭	v
內容目錄	vi
表目錄	viii
圖目錄	ix
第一章 緒論	1
第一節 研究背景	1
第二節 研究動機	2
第三節 研究目的	3
第四節 名詞解釋	4
第二章 文獻探討	5
第一節 管理資訊系統的實習課程	5
第二節 行動反思取向的教學策略	14
第三節 合作學習對學生的影響	17
第三章 研究方法	22
第一節 研究對象與情境	22
第二節 研究步驟	27
第三節 資料收集方法	28
第四節 資料分析方法	31
第五節 研究信度與效度	35
第四章 結果與討論	37
第一節 實習前學生自我評估	37
第二節 實習中團隊的運作方式及遭遇的問題	39
第三節 課程對學生的影響	46
第四節 學生對實習課程的態度及建議	56
第五章 結論與建議	63
第一節 結論	63
第二節 研究限制與建議	65
參考文獻	66

REFERENCES

一、中文部份1111人力銀行(2008), 學歷膨脹 文憑貶值? 7分上大學企業因應方式調查, [線上資料], 來源:

- <http://www.1111.com.tw/zone/pr/headline.asp?autono=18381111>人力銀行(2008), 職場不「徵鮮」? 新鮮人就業現況調查, [線上資料], 來源: <http://www.1111.com.tw/zone/pr/headline.asp?autono=1905>
- 王建昌(1997), 學校教育對資訊從業人員技術養成之研究, 國立中央大學資訊管理學系未出版之碩士論文, 桃園縣。江文慈(1993), 槓桿認知能力發展的評量與學習遷移歷程的分析 動態評量之應用, 國立台灣師範大學教育心理與輔導研究所未出版之碩士論文, 台北市。李嘉祥(1999), 合作學習對國中學生生物學習動機之影響, 高雄師範大學科學教育研究所未出版之碩士論文, 高雄市。林世華, 黃寶園(2002), 合作學習對學習效果影響之研究: 統合分析, 師大教育心理學報, 34(1), 21-42。林東清(1994), 資管人員的技能需求 - 由組織管理、系統開發與電腦科技三方面來比較分析, 資訊管理, 1(1), 68-72。林佩璇(2000), 個案研究及其在教育上的應用, 質的教育研究法, 239-26。林清江(1975), 建教合作理論與制度之比較研究, 國立師範大學教育研究所集刊, 17, 113-145。林清和(1994), 產學合作之特色, 技職雙月刊, 23, 32-35。吳青穗(2007), 我國創新育成中心推行產學合作之運作現況與困境, 國立東華大學行政管理學研究所未出版之碩士論文, 花蓮縣。孟繼洛(2003), 產學合作教育的新思維, 技職教育雙月刊, 76, 17-20。胡幼慧(1996), 質性研究 - 理論、方法及本土女性研究實例, 台北市: 巨流圖書有限公司。洪福財(1998), 從「詮釋學」的觀點談教育研究結果的解釋與應用, 臺北師院學報, 11, 85-108。徐恆鑑(2006), 校外實習成效之評估-以明志科技大學三明治教學為例, 世新大學行政管理學研究所未出版之碩士論文, 台北市。徐綺穗(2007), 行動學習理論及其在大學教學的應用 - 建構「行動 - 反思」教學模式, 課程與教學季刊, 10(4), 49-62。唐智(1986), 建教合作通論, 台北市: 國立編譯館。高玉芬, 何志峰(1996), 從策略聯盟剖析建教合作, 技術與職業教育雙月刊, 35, 51-55。高廣孚(1976), 杜威教育思想, 台北: 水牛出版社。許國雄(1996), 加強技職體系建教合作制度之研究, 東方工商學報, 19, 1-22。張新仁, 王金國(2003), 國小六年級實施國語科合作學習之研究, 教育學刊, 21, 53-78。張芳全(2002), 合作學習在綜合活動應用, 國民教育, 43(1), 40-48。康自?(1986), 建教合作教育原?, 台?市: 全華書局。康自立(1988), 建教合作教育之探討, 師大學報, 30, 179-206。陳昭雄(1985), 工業職業技術教育, 台北市: 三民書局股份有限公司。陳靖宜(2001), 組織資訊部門與資訊系應屆畢業生契合度之研究, 國立中山大學人力資源管理研究所未出版之碩士論文, 高雄縣。陳錫鎬(1991), 建教合作教育制度的探討, 技術及職業教育雙月刊, 4, 22-27。黃政傑, 林佩璇(1996), 合作學習, 台北市: 五南圖書公司。黃金益(1998), 合作學習對大學生專題製作創造力影響之研究, 國立彰化師範大學工業教育學系未出版之碩士論文, 彰化縣。黃瑞琴(1991), 質的教育研究法, 台北市: 心理出版社。游惠音(1996), 同儕交互發問合作學習對國小六年級學生社會科學學習成就表現、勝任目標取向及班級社會關係之影響, 國立台灣師範大學教育心理與輔導研究所未出版碩士論文, 台北市。游佳萍, 黃維康(2006), 資訊專業技能與生涯錨之研究, 人力資源管理學報, 4(6), 23-45。楊榮祥譯(1993), 詮釋性研究法在科學教育上的運用, 科學教育的詮釋性研究, 國際詮釋性研究研討會講義, 國立台灣師範大學, 台北市。楊朝祥(1985), 技術職業教育理論與實務, 台北市: 三民書局。楊榮祥(1992), 解釋研究法在科學教育研究上的運用, 科學發展月刊, 20(5), 539-537。詹志祥(2006), 使用自由公眾創作工具於合作學習之五年級作文教學研究, 大葉大學資訊管理學系碩士在職專班未出版之碩士論文, 彰化縣。趙仰雄(1986), 杜威與孔孟教育思想的異同, 台北: 幼獅文化事業公司。劉錫麒(1986), 民族誌研究法的效度問題, 花蓮師專學報, 17, 185-190。劉宣昕(2006), 大學資訊工程系與資訊管理系學生之學業成就預測, 國立屏東科技大學資訊管理系未出版之碩士論文, 屏東縣。榮泰生(1992), 管理學, 台北市: 五南圖書出版公司。蔡明雄(1999), 合作 - 建構整合教學模式對國小學童簡單幾何問題效果之研究, 國立台灣師範大學教育心理與輔導研究所未出版碩士論文, 台北市。蕭奕志(2005), 校外實習學生專業社會化歷程之研究 以某一所技術學院餐飲系為例, 台灣師範大學工業教育學系未出版碩士論文, 台北市。賴中淳(2004), 由畢業生工作滿意程度看台灣地區資管教育, 元智大學資訊管理研究所未出版之碩士論文, 桃園縣。鄭增財(2006), 行動研究原理與實務, 台北市: 五南圖書出版公司。
- 二、英文部份Apel, K. O. (1984). Understanding and explanation: A transcendental-pragmaticpersoective. London: The Mit Press.Alvesson, M., & Wilmott, H. (1992). Critical management studies. Sage Publications, London.Argyris, C. & Schon, D. (1974). Theory in practice: Increasing professional effectiveness. London: Jossey-Bass.Ashenhurst, R. R. (1972). Curriculum recommendations for graduate professional programs in information systems. Communications of the ACM, 15(5), 364-384.Benbasat, I., Goldstein, D. K., & Mead, M. (1987). The case research strategy in studies of information systems. MIS Quarterly, 11(3), 369-386.Chung, J. C. C. & Chow, S. M.. K. (2004). Promoting student learning through a student-centred problem-based learning subject curriculum. Innovations in Education and Teaching International, 41(2), 154-168.Coery, S. M., Halverson, P. M. & Loew, E. (1953). Teachers prepare for discussion group leadership. New York: Teachers College, Columbia University.Cohen, J. (1992). A power primer. Psychological Bulletin, 112(1), 155-159.Couger, J. D., Davis, G. B., Dologite, D. G., Feinstein, D. L., Gorgone, J. T., Jenkins, A. M., Kasper, G. M., Little, J. C., Longenecker, H. E., & Valacich, J. S. (1995). Guideline for undergraduate IS curriculum. MIS Quarterly, 19(3), 341-359.Creswell, J. W. (1994). Research design: Qualitative & quantitative approaches. Sage Publications, Thousand Oaks.Crebert, G., Bates, M., Bell, B., Patrick, C. J., & Cragolini, V. (2004). Developing generic skills at university, during work placement and in employment: Graduates' perceptions. Higher Education Research and Development, 23(2), 147-165.Denzin, N. K., & Lincoln, Y. S. (1994). Handbook of qualitative research. Sage Publications, Thousand Oaks.Ellis, A. K. (2001). Research on educational innovations. New York: Eye on Education, Inc.Erickson, F. (1993). How can we learn from interpretive research in science education? Paper presented at international conference on interpretive research in science education. Taipei, Taiwan.Gadamer, H. G. (1975). Truth and method. New York: The Continuing Publishing Corporation.Gill, T. G. & Hu, Q. (1999). The evolving undergraduate information systems education: A survey of U.S. institutions. Journal of Education for Business, 74(5), 289-295.Gish, G. L. (1979). The learning

cycle. Washington, DC: U.S. Government Printing Office. Goldberger, N., Tarule, J., Clinchy, B., & Belenky, M. (1998). *Knowledge, difference and power*. New York: Basic Books.

Hart, E. & Bond, M. (1995). *Action research for health and social care: A guide to practice*. Buckingham: Open University Press.

Jackson, M. Goldthorp, J.H. & Mills, C. (2005). Education, employers and class mobility. *Research in Social Stratification and Mobility*, 23, 2005, 3-33.

Johnson, B. (1993). Teacher as researcher. *ERIC Digest*. ED 355205.

Johnson, D. W., & Johnson, R. T. (1994). *The new circles of learning cooperation in the classroom and school*. Alexandria, VA: ASCD.

Johnson, D. W., & Johnson, R. T. (1994). *Learning together and alone: Cooperative, competitive and individualistic*. Boston: Allyn & Bacon.

Johnson, D. W. & Johnson, R. T. (1988). *Circles of Learning*. Alexandria, VA: Association for Supervision and Curriculum Development.

Johnson, D. W. & Johnson, R. T. (1998). *Cooperative learning and social interdependence theory*. [Online]. Available: <http://www.co-operation.org/pages/SIT.html> [2008, December 8]

Johnson, D. W., Johnson, R. T., & Stanne, M. B. (2000). *Cooperative learning methods: A meta-analysis*. [Online]. Available: <http://www.co-operation.org/pages/cl-methods.html> [2008, December 6]

Justice, C., Rice, J., Warry, W., Inglis, S., Miller, S., & Sammon, S. (2007). Inquiry in higher education: reflections and directions on course design and teaching methods. *Innovative Higher Education*, 31(4), 201-214.

Klein, H. K., & Myers, M. D. (1999). A set of principles for conducting and evaluating interpretative field studies in information systems. *MIS Quarterly*, 23(1), 67-94.

Kuhn, T. S. (1970). *The structure of scientific revolutions* (2nd Ed. ed.). Chicago: The University of Chicago Press.

Kolb, D. (1976). *Learning style inventory*. MA: McBer and Associates.

Lee, D. M. S., Trauth, E. M., & Farwell, D. (1995). Critical skills and knowledge requirement of IS professionals: A joint academic/industry investigation. *MIS Quarterly*, 19(3), 313-340.

Lee, A. F., Sirkka, L. J., & Bradley, C. W. (2000). The supply and demand of information systems doctorates: Past, present, and future. *MIS Quarterly*, 24(3), 355-380.

Lee, A. S. (1989). A scientific methodology for MIS case studies. *MIS Quarterly*, 13(1), 33-52.

Lee, S., Koh, S., Yen, D. C., & Tang, H. L. (2002). Perception gaps between IS academicians and IS practitioners: An exploratory study. *Information & Management*, 40(1), 51-61.

Lizzio, A. & Wilson, K. (2004). Action learning in higher education: an investigation of its potential to develop professional capability. *Studies in Higher Education*, 29(4), 470-488.

Lincoln, Y. S., & Guba, E. G. (1989). But is it rigorous? trustworthiness and authenticity in naturalistic evaluation. *New Directions for Program Evaluation*, 30, 73-84.

Mason, R. E., & Haines, P. G. (1972). *Cooperative occupational education*. The Interstate Printers & Publishers, Inc.

McGill, I., & Brockbank, A. (2004). *The action learning handbook*. London: RoutledgeFalmer.

Mills, G. E. (2003). *Action research: A guide for the teacher researcher*. New Jersey: Prentice Hall; 2 edition.

Napier, N. P., & Johnson, R. (2007). Technical projects: understanding teamwork satisfaction in an introductory IS course. *Journal of Information Systems Education*, 18(1). [Online]. Available: http://findarticles.com/p/articles/mi_qa4041/is_200704/ai_n19432032/pg_12 [2008, December 26]

Nelson, R. R. (1991). Educational needs as perceived by IS and end-user personnel: A survey of knowledge and skill requirements. *MIS Quarterly*, 15(4), 503-525.

Neuman, W. L. (1997). *Social research methods: Qualitative and quantitative approaches*. Boston: Allyn and Bacon.

Nunnally, J. L. (1978). *Psychometric Theory* (2th), New York: McGraw Hill Publishers.

Parker, B., & McGregor, J. (1995). A goal-oriented approach to laboratory development and implementation. *Proceedings of the twenty-sixth SIGCSE technical symposium on Computer science education*, Nashville, Tennessee, 92-96.

Quick, T. L. (1992). *Successful Team Building*. New York: American Management Association.

Schmuck, R. A. (1997). *Practical action research for change*. ED 426960.

Schon, Donald A. (1983). *The reflective practitioner: How the professionals think in action*. New York: Basic Books, Inc.

Schon, Donald A. (1991). *The reflective turn: Case studies in and on educational practice*. New York: Teachers College Press.

Schon, D. (1987). *Educating the reflective practitioner*. San Francisco, CA: Jossey-Bass.

Slavin, R. E. (1995). *Cooperative learning: Theory, research, and practice* (2nd ed.). Boston: Allyn and Bacon.

Schlechty, P. & Nobility, G. (1982). Some uses of sociological theory in educational evaluation. In Ron Corwin (Eds.), *Policy Research*. Greenwich, CT: JAI.

Skinner, B. F. (1953). *Science and Human Behavior*, New York: The Macmillan Co.

Todd, P. A., McKeen, J. D., & Gallupe, R. B. (1995). The evolution of IS job skills: A content analysis of IS job advertisements from 1970-1990. *MIS Quarterly*, 19(1), 1-27.

Wade, S., & Hammick, M. (1999). Action learning circles: Action learning in theory and practice. *Teaching in Higher Education*, 4(2), 163-178.

Wallace & Patricia. (2007). Using collaboration to provide students with an internship experience in an information systems course. *Journal of Information Systems Education*, 18(2). [Online]. Available: http://findarticles.com/p/articles/mi_qa4041/is_/ai_n19511577 [2008, December 26]

Walsham, G. (2006). Doing interpretive research. *European Journal of Information Systems*, 3(15), 320-330.

Walsham, G. (1995). Interpretive case studies in IS research: Nature and method. *European Journal of Information Systems* (4), 74-81.

Watson, S. B. (1991). Cooperative learning and group educational modules: Effects on cognitive achievement of biology students. *Journal of Research in Science Teaching*, 28(2), 141-146.

Yen, D. C., Chen, H. G., Lee, S., & Koh, S. (2003). Differences in perception of IS knowledge and skills between academia and industry: Findings from Taiwan. *Journal of Information Management*, 23(6), 507-522.

Young, D., & Lee, S. (1996). The relative importance of technical and interpersonal skills for new information systems personnel. *Journal of Computer Information Systems*, 36(4), 66-71.