

A Comparative Study of Dy-Sin-Cang-Jie and Wu-Sia-Mi on Input Performance

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ABSTRACT

Chinese Character Input is the basic and important ability to use Chinese Computer. The efficiency of using Chinese computer depends on the performance of Chinese Character Input. Therefore, it is crucial to choose a better-efficient Chinese Character Input system and master it, so that Chinese computer users can lay a solid foundation in using computers. The purpose of this study was to compare the performance of Dy-Sin-Chang-Jie and Wu-Sia-Mi, both of which were Chinese Character Input systems with better efficiency on the market. This study, based on the regulations made by National Languages Committee of the Ministry of Education, made theoretical analysis on keyboard layouts, average number of key strokes and the rate of choosing correct words. By conducting experiments with the between-subjects design, ten students in the fourth grade in an elementary school were divided into two groups at random, and they spent seventy-five minutes per day in two semesters to complete this experiment. The intention of this experiment was to compare the key-in efficiency and typing error rate of these two Chinese Character Input systems. The result of theoretic analysis indicated that the keyboard layout, average number of key strokes, and the rate of choosing correct words of Dy-Sin-Cang-Jie were superior to Wu-Sia-Mi. Moreover, the conclusion of the experiment was in accordance with the theoretic analysis. In the aspect of key-efficiency, Dy-Sin-Cang-Jie was higher than Wu-Sia-Mi ($P = 0.0079$)

Keywords : Keyboard Layout, Typing, Input Method, Chinese Character Input, Dy-Sin-Cang-Jie, Wu-Sia-Mi

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REFERENCES

- 中文文獻 [1] 中華民國電腦技能基金會(民 86), 企業人力資源與電腦技能需求, <http://www.csf.org.tw/join/3000/3000.htm>。
- [2] 中華電腦教育發展協會(民 94)。中華電腦教育發展協會全球資訊網, <http://www.cca.org.tw>。
- [3] 行易股份有限公司(民 93), 嘸蝦米輸入法全球資訊網, <http://www.liu.com.tw>。
- [4] 李再長(民 86), 中文電腦注音符號輸入鍵盤的研究設計, 國科會。
- [5] 周福星、李再長、林清泉(民 81), 中文電腦大易碼輸入鍵盤的研究設計, 成功大學學報, 第27 卷69-82。
- [6] 林惠玲、陳正倉(民 85)統計學-方法與應用(下冊), 雙葉書廊有限公司。
- [7] 唐惠欽(民 87), 倉頡、大易與嘸蝦米輸入法之分析, 正修學報, 第十一期, 169-176。
- [8] 徐蕙君(民 85), 電腦鍵盤輸入適性練習策略之研究, 台灣師範大學資訊教育研究所碩士論文。
- [9] 國語推行委員會(民 88), 八十七年常用語詞調查報告書, http://www.edu.tw/EDU_WEB/EDU_MGT/MANDR/EDU6300001/result/87news/index1.htm?open。
- [10] 資訊工業策進會編(民 73), 中文電腦輸入法與輸入器調查評估總結報告, 資訊工業策進會。
- [11] 劉重次(民 87), 嘸蝦米輸入法, 行易有限公司。

- [12] 劉芬(民 76), 突破輸入瓶頸:改進注音符號輸入, 資訊與電腦, 3 月號。
- [13] 謝光進、許勝雄(民 75), 中文電腦輸入鍵盤的設計研究, 國科會。
- [14] 謝光進、許勝雄(民 76), 中文電腦輸入鍵盤之實徵評估研究, 國科會。
- [15] 謝光進、澎清勇(民 78), 中文鍵盤之實徵評估:熟手的適應與干擾現象, 國立台灣科技大學。
- [16] 戴建耘(民 91), 邁向知識經濟e 世代多媒體中英文聽打與看打, 中華民國電腦教育發展協會 2001 年全國中英文看打與聽打競賽教師聯誼會簡報。
- [17] 戴建耘、林世良(民 84), 為電腦中文化紮根--中文輸入技能教學與競賽現況調查與芻議, 商業 職業教育, 60, 67-74。
- [18] 蘇清得(民 93)大新倉頡I 週快易通, 宏全資訊股份有限公司。英文文獻 [19] Bailey, R. W., Human performance Engineering: A Guide for System Designers, Hong-Ciao Book Publishing Co., Taipei, 300-301,1983.
- [20] Bames, R. M., Motion and Time study: Design and Measurement of work, 4 th. ed., John Wiley and Sons, Inc., New York, 1979.
- [21] Byran, W. L. On the Development of Voluntary Motor Ability,American Journal of Psychology, Vol. 5. No. 2.
- [22] Griffith, R. T., The minimotion typewriter keyboard, Journal of Franklin Institute, 399-436, 1970.
- [23] Hoke, R.E. Improvement of Speed and Accuracy in Typewriting, Johns Hopkins Studies in Education, No.7, 1-42.
- [24] Huchingson, R. D., New-Horizons for human factors in design, Me Graw-Hill Book Co., New York, 1981.
- [25] Kinkead, R., Typing speed. Keying rates and Optimal keyboard layouts. Proceedings of the 19 th Annual Meeting of the Human Factors Society. Santa Monica, CA., 159-161, 1975.
- [26] Me Cormick, E. J. and Sandars, M. S., Human Factors In Engi-neering and Design, 4 th. ed.. Central Book Publishing Co.,Taipei, 1983 [27] Michales, S. E., Qwerty versus alphabetic keyboards as a function of typing skill. Human Factors, 13, 419-426, 1971.
- [28] Norman, D. A. and Fisher, D., Why alphabetic keyboards are Not Easy to Use: Keyboard layout Doesn't Much Matter, Human Factors, Vol. 24, No. 5, 509-519, 1982.
- [29] Petersen, R. P., Should keyboarding instruction precede college-level computer class? Business Education Forum, 45(8), 31-32,1991.
- [30] Rumelhart, D.E. and Norman, D.A, Simulating a skilled typist: A study of Skilled Cognitive-motor performance. Cognitive Science, 6, 1-36, 1982.