英文論文寫作與投稿經驗

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論文的種類

- 研討會論文
  - 一般審查時間：2個月
  - 錄取率：依研討會的規模決定(約50%-90%)
- 期刊論文 (審查時間：平均3月至1年，錄取率低於20%)
  - SSCI (Social Science Citation Index)
  - SCI (Science Citation Index)
  - EI (Engineering Index)
  - TSSCI (Taiwan Social Science Citation Index)
  - 其他

一般期刊之評審要點

- 學術價值(創新性)
- 應用價值
- 學理根據與觀點之正確性
- 文章組織結構
- 研究方法之嚴謹性
- 題目合宜
- 文章長度恰當
- 格式正確
- 用詞的正確性及文章的流暢度

評審委員必問的問題

- 你的論文貢獻在哪裡？
- 幾個方向思考這個問題：
  - 研究的議題是否別人沒有研究過？
  - 是否用不一樣的方法/技術/演算法，得到不錯的結果？
  - 是否有改良現有的方法？
  - 是否有將別人的研究限制解除一些？
  - 是否研究的對象不一樣，例如，探討不同的產業別、不同的企業、不同的個案？
  - 是否發現了有趣或值得參考的結果？

進行論文寫作的第一步

- 決定論文架構，包括Sections and Subsections
- 蒐集相關文獻
  - 除了特別的文獻外，應以近5年的SSCI/SCI期刊文獻為主
  - 近3年的文獻應佔一定的比例
  - 所要投稿的期刊的文獻也要佔一定的比例(至少3篇以上)

論文架構- 以系統開發為主

- 標題及作者: Title and authors
- 摘要: Abstract
- 簡介: Introduction
- 相關研究: Relevant Research (Literature Review)
- 系統架構: System Structure
- 新的方法(演算法): XXX Approach (Algorithm)
- 系統製作、實驗及評量: Experiments and Evaluation
- 結論
- 參考文獻

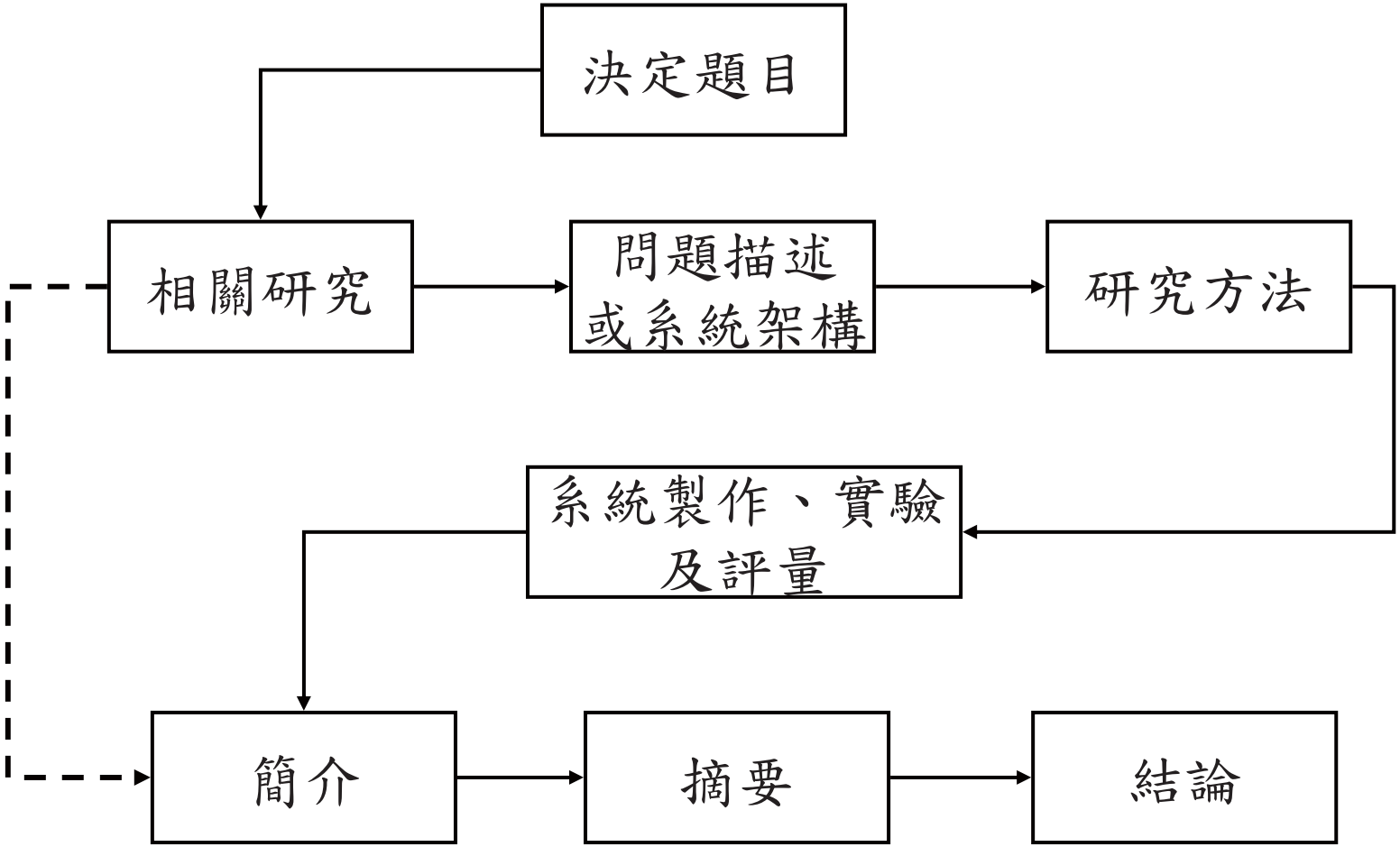
論文架構- 以提出新方法或技術為主

- 標題及作者: Title and authors
- 摘要: Abstract
- 簡介: Introduction
- 相關研究: Relevant Research (Literature Review)
- 問題描述: Problem Definition
- 新的方法(演算法): XXX Approach (Algorithm)
- 系統製作、實驗及評量: Experiments and Evaluation
- 結論
- 參考文獻

論文架構- 以問題探討為主的研究

- 標題及作者: Title and authors
- 摘要: Abstract
- 背景及問題描述: Introduction
- (文獻回顧: Literature Review)
- 研究設計: Method
- 結果與分析: Results
- 結論與討論: Conclusions and Discussion
- 參考文獻

論文寫作的建議順序



論文題目

- 10-15字
- 能立即呈現研究的目的、創新或貢獻
  - Development of a Testing System (X)
  - A New Test Sheet Generating Method (X)
  - A Novel Approach to Composing Test sheets for Multiple Assessment Criteria in Building Testing Systems (O)
  - Development of A Testing System to meet Multiple Assessment Requirements (O)

最容易寫不好的論文部分
-研究背景與動機、文獻回顧

- 代表作者對研究的瞭解程度及學術的態度
- 避免嘗試改寫中文版的相關研究，直接重寫會比較快。
- 先找好10-20篇最近十年相關的文獻。
- 挑選2-3篇最直接相關的文獻，參考其literature review的內容，來描述問題的形成動機。
- 再參考其他文獻的Abstract描述，依年代分段敘述最近十年的發展狀況，約1000-1500字
- 重點：Tell a story (加一些說明將這些內容連貫起來)
- 要說明本研究的動機及貢獻

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不好的文獻回顧-報流水帳

- 只有說本研究想要做什麼，而沒說明背景、目的及動機
- 只有說明過去大家做了什麼，但沒有說明這些文獻與本研究的關係
- 文獻的年代及研究先後次序雜亂，看不出來是要表達什麼
- 所有提到的相關研究都連貫不起來

好的文獻回顧-說出這個主題的發展過程、重要性及研究動機

The rapid progress in information technology can help instructors to teach more efficiently and effectively by employing new strategies with appropriate software tools and environments (Fabos & Young, 1999).（強調資訊科技發展帶來的機會） Several studies have demonstrated the benefits of applying information technologies to instruction, such as Computer scaffolding (Guzdial et al., 1996), Computer-Supported Collaborative Learning (CSCL, e.g., Harasim, 1999), Computer-Supported Intentional Learning Environments (CSILE, e.g., Scardamalia et al., 1989) and Computer-Integrated Classroom (CiC, e.g., Eshet et al., 2000).（強調資訊科技對教育的用途）

Earlier studies of educational tools focused on the development of Computer-Assisted Instruction (CAI) systems.（不用急著一句講完）A CAI system can be perceived as a tutorial system, which is a guided system to provide well-constructed information. For example, Burks **(1996)** presented computer-based tutorials and a virtual classroom to teach circuit analysis. In the meantime, Gang et al. **(1996)** proposed a tutorial system by using artificial intelligence technology. Some researchers utilized auxiliary software to enhance their tutorial systems (Robert, 1996; William & Marion, 1996), some provided interactive tutorials for manuals with graphical user interface (Sally, 1996) or with rich multimedia formats (Pui & William, 1996).（回顧早期以資訊科技發展的教育工具）The study of Barrett and Lally (1999) showed the effectiveness of such computer-assisted instruction systems based on empirical evaluation. Davidovic et al. (2003) also concluded that greater efficiency can be achieved by basing the system development on the theoretical background of cognitive knowledge acquisition.（強調這些工具的功效）

Recently, the efficiency and popularity of the Internet has received much attention that has motivated efforts towards integrating Web-based learning activities into the curriculum (Khan, 1997; Chang, 2001; Tsai et al., 2001; Tsai & Tsai, 2003; Huang & Lu, 2003). （說明網路的發展帶來了改變）Considerable work has been conducted on the use of Internet as a distance-learning tool (Apkarian & Dawer, 2000), and the use of web-based simulation tools for education (Sreenivasan et al., 2000). Moreover, some practical usages of web-based educational systems in industrial training courses have been reported (Poindexter & Heck, 1999). In addition to their obvious use in a distance-learning scenario, those educational tools can also be used to enrich classroom experience through the use of a data projector (Ringwood & Galvin, 2002). (引導至網路學習環境及工具的發展及重要性）

Bilal (2000) indicated several limitations in analyzing student learning behaviors of using search engines by an exit interview, including the reliability of the students‘ affective states gathered from it.（開始聚焦到探討網路資料搜尋能力的重要）Owing to the lack of technical supports, most researchers adopted the qualitative method using an exit interview relied on students’ perceptions of and feelings about their experiences with the search engines; therefore, the reliability of the studies may be threatened unless a careful check can be made on the videotapes of traversal activities or the verbalization during traversal, which is known to be time-consuming.（說明過去研究網路資料搜尋能力的遭遇的困難－不易獲得完整的資料搜尋歷程）

- Consequently, to allow the researchers and the teachers to make precise quantitative analysis on student learning behaviors, the development of a web-search learning environment, which can record students‘ problem-solving behaviors of using search engines, is needed. （由困難推論到需求）To cope with this problem, this study proposes a web-search analytic environment, Meta-Analyzer, to assist teachers in observing and analyzing student learning behaviors.（提出解決方案-強調研究動機及目的）

問題描述及研究方法

- 問題描述
  - 正式定義面臨的問題
  - 以圖或公式來說明問題的內容
  - 最好舉例說明問題的特性
- 研究方法
  - 說明方法的來源及過去的應用
  - 說明方法的精神及細節
  - 說明方法如何套用到目前的問題

說明系統價值的評量方法

To assist the teachers in tracing and analyzing the information searching behaviors of students, a web-based learning environment, Meta-Analyzer, has been developed. Moreover, a series of investigations have been conducted to demonstrate the usefulness of the innovative approach.

2.1 System Development

Meta-Analyzer is implemented based on the notion of metasearch engine, which is a system that provides unified access to one or more existing search engines. When a metasearch engine receives a user query, it can automatically query appropriate underlying search engines, collect and reorganize the results, and display them to the user in a uniform format (Ramanathan, 2001; Meng et al., 2002).

2.2 Teacher Data Collection and Analysis

Fifty-four teachers from several elementary and junior high schools were invited to use Meta-Analyzer to have some trial experiences. After experiencing some searching tasks with the assistance of Meta-Analyzer, the teachers employed Meta-Analyzer to trace and analyze the searching behaviors of all participant teachers as a whole, and then answer a questionnaire to reflect upon the effectiveness and potential applications of Meta-Analyzer.

2.3 Student Data Collection and Analysis

To evaluate the feasibility and the potential application of Meta-Analyzer in tracking the student online search strategies and activities, two-hundred and twenty 4th to 6th elementary school students (including one hundred and twenty-three females and ninety-one males who were capable of using computers and networks) were asked to answer the following four questions with Meta-Analyzer.

(1) How many nuclear power plants are there in Taiwan? Where are they located?
(2) What is the scientific principle of using nuclear power?
(3) What are the advantages and disadvantages of nuclear power?
(4) Do you agree to develop nuclear power? Why?

實驗及分析

- 比較答案的品質及演算法的效率-以大量資料模擬測試
- 瞭解系統的滿意度及使用意願-問卷調查
- 驗證系統或方法的效果-以實驗組及對照組進行3-6個月的測試及分析(前測及後測)
- 比較新系統(方法)與舊系統(方法)的效果-多人交叉使用兩系統(方法)並比較結果
- 比較對象：舊系統(方法)、使用與未使用、Random、Heuristic、Optimal方法產生的結果

說明實驗設計

4. Experiment Design

To evaluate the effectiveness of the innovative approach, an experiment was conducted on a natural science course of an elementary school located in southern Taiwan. The experiment aimed to investigate whether the students who learned with T^3G attained better results and had more positive perceptions than those who learned in a "pure" (tour-based) u-learning environment. (說明實驗設計的目的） In the following subsections, the design and analysis of the results of the experiment are given in detail.

4.1. Participants

The participants of this study were 57 fifth-grade students taught by the same teacher in an elementary school. Their average age was 11. After receiving the fundamental plant knowledge in a natural science course, they were divided into a control group (n = 29) and an experimental group (n = 28).

4.2. Learning Activity Design

Figure 5 shows the procedure of the experiment. In the first stage (four weeks), the teacher was guided to provide the classification knowledge of the target plants. This experiment contained 13 learning objects (plants on the school campus), namely "Spindle palm", "Golden dewdrop", "Variegated leaf croton", "Golden Leaves", "Star Cluster", "Bread-fruit Tree", "Liquidambar", "Common garcinia", "Golden Bamboo", "Odour-bark cinnamon", "Blue sky vine", "Devil's Ivy", and "Golden dewdrop"...（說明二組學生在活動要做什麼）

4.3 Instruments

To evaluate the learning effectiveness of the students, a pre- and a post-test were developed; in addition, to collect the students' perceptions about the ubiquitous learning activity and their attitudes toward learning science, a perception questionnaire survey (see Appendix A) and an attitude questionnaire survey (see Appendix B) were administered to all students as well.

（說明本實驗總共用了那些測驗或量表）

The pre-test aimed to confirm that the two groups of students had the equivalent basic knowledge required for taking this particular subject unit. (說明前測的目的）It was composed of 25 fill-in-the-blank items with a full score of 100.（測驗的內容及分數）The post-test consisted of two types of test items: 15 multiple-choice items and 8 short essay items with a full score of 100. It focused on evaluating the students' knowledge about comparing and classifying the plants based on their leaf features. Both the pre- and post-test were designed by the teacher who taught the Natural Science course to the two groups of students. The tests were also evaluated by other science educators for expert validity.（前後測試題的來源）

The perception and the attitude questionnaires were designed to collect the students' perceptions about the mobile learning activity on the campus and their attitudes toward learning science after participating in the experiment. They originated from a questionnaire developed by Chu, Hwang, and Tsai (2010), with a reliability coefficient of 0.913.（說明全部問卷的目的、來源及信度）

The perception questionnaire used in this study consisted of 19 six-point Likert-scale items where 1 represented "strongly disagree" and 6 represented "strongly agree".（說明perception問卷的內容、題數及刻度）It included three scales concerning students' perceptions of the ubiquitous learning activity, including "experiences about using the PDA", "feelings about the mobile learning system" and "degree of satisfaction with the learning approach".（說明perception問卷的面向）

論文簡介

- 內容：整篇文章的濃縮版
- 字數：1000-1500字
- 包含
  - 研究背景及動機
  - 研究目的（問題的描述）
  - 研究方法（概念性的描述）
  - 研究成果（實驗結果及貢獻）

論文摘要

- 內容：簡介的濃縮版
- 字數：200-300字
- 包含
  - 研究動機及目的（問題的描述）
  - 研究方法（概念性的描述）
  - 研究成果（實驗結果及貢獻）

Although previous research has demonstrated the benefits of applying the Internet facilities to the learning process, problems with this strategy have also been identified. One of the major difficulties is owing to the lack of an online learning environment that can record the learning portfolio of using the Internet facilities in education, such that the teacher can analyze and evaluate the learning performance of students, and hence the teaching strategies can be adjusted accordingly. (研究動機及目的) In this paper, we propose a web-search learning environment, called Meta-Analyzer, which is able to assist the teachers in analyzing student learning behaviors of using search engines for problem solving. Two-hundred and twenty students and fifty-four teachers contributed to the trial of the system. (研究方法) The results have shown that the novel approach is able to gain a better understanding about students' learning processes and searching strategies in technology-enhanced environments, as well as to assist the teachers to acquire more about the learning status of students, and hence more constructive suggestions can be given accordingly.

（實驗結果及貢獻）

結論(與討論)

- 內容：摘要的結論加上討論、限制，以及未來的發展或改進方向
- 字數：500-1000字
- 包含
  - 研究成果（實驗結果及貢獻）
  - 深入探討造成這些結果的原因
  - 與過去其他的研究做一些比較（並引用文獻）
  - 討論研究的限制
  - 未來可能的發展或改進的方向