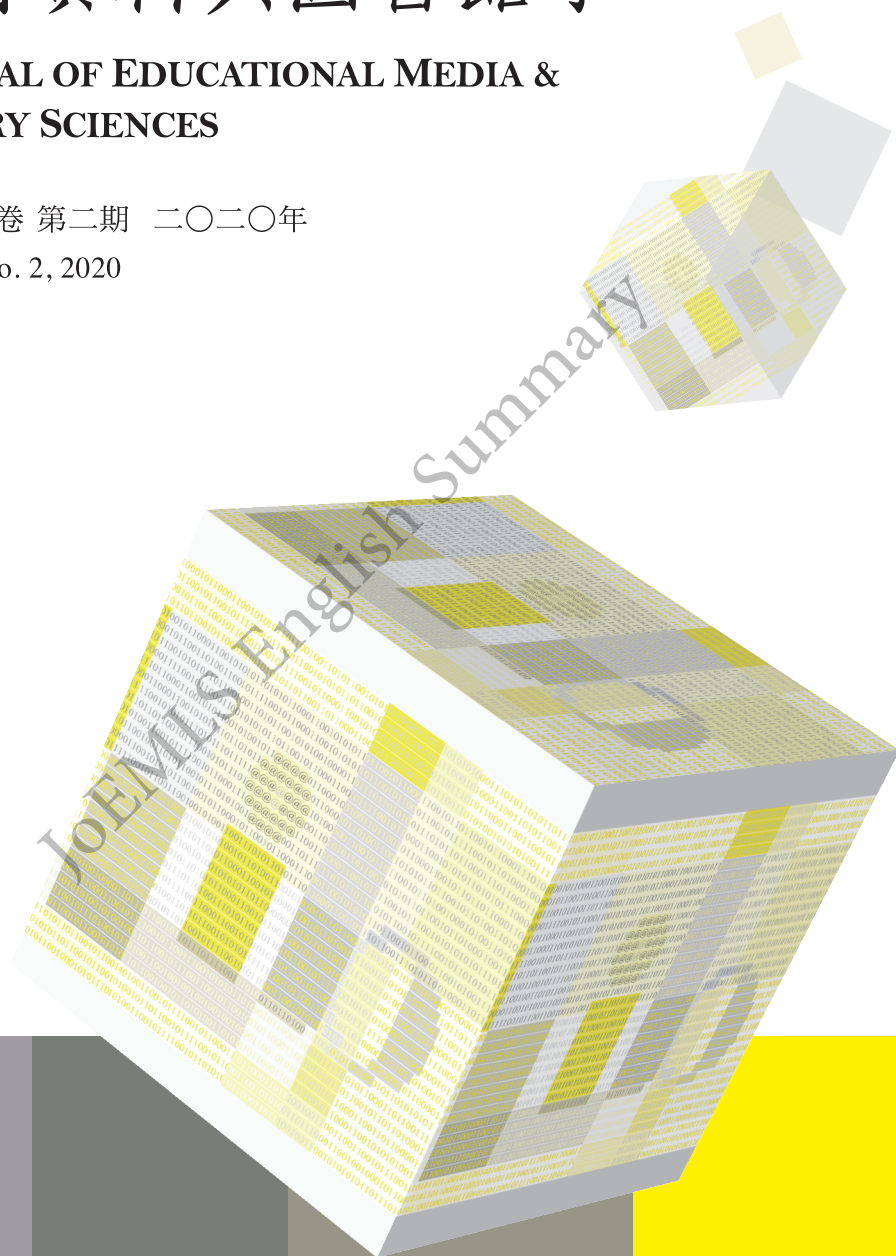


# 教育資料與圖書館學

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教育資料與圖書館學，始於1970年3月創刊之教育資料科學月刊，其間於1980年9月更名為教育資料科學，並改以季刊發行。自1982年9月起易今名。另自2016年11月起，改以一年出版三期（3月、7月、11月）。現由淡江大學出版中心出版，淡江大學資訊與圖書館學系和覺生紀念圖書館合作策劃編輯。本刊為國際學術期刊，2008年獲國科會學術期刊評比為第一級，2015年獲科技部人文社會科學研究中心評定為教育學門專業類一級期刊。並廣為海內外知名資料庫所收錄(如下英文所列)。

**The JOURNAL OF EDUCATIONAL MEDIA & LIBRARY SCIENCES (JoEMLS)**, published by the Tamkang University Press and co-published with the Department of Information & Library Science (DILS) and Chueh Sheng Memorial Library, was formerly the **Bulletin of Educational Media Science** (March 1970 – June 1980) and the **Journal of Educational Media Science** (September 1980 – June 1982). In 2015, The JoEMLS is acknowledged as the first class scholarly journal in Taiwan by Ministry of Science and Technology (MOST). Since November 2016, the JoEMLS has been changed from quarterly to a tri-annual journal, published in March, July, and November.

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- (3) published source must be acknowledged with citation.



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## EDITORIAL

# The Opportunity and Status of the *JoEMLS* Open Peer Review System

In recent years, many controversial issues around publishing of predatory journals have been unresolved, mainly because not enough facts are served as substantial evidence to support or deny the innovative management models, which are supposed to be within the range of normal journal publishing. In another words, so-called predatory publishing behaviors are often turned out to be wrongly accused, sometimes because the accusers are unconsciously over-subjective, and in some cases it is because of stereotypes towards the publishers' images, credibility or history. Such prejudices certainly become hindrances for new journal publishers who make efforts to promote innovative publishing modes, and it is also easy for the REAL predatory journal publishers to pass off fake products as genuine, and to gain improper advantages in chaotic accusations. How to solve the dilemma of the chaotic scholarly publishing? Many scholars and institutions have developed various journal evaluation standards, trying to identify the genuine ones; however, these standards might still be developed from others' past experiences, which tend to be over-subjective. The expedient solution to this problem might be the so-called Open Peer Review (OPR) system, which makes review records of submitted manuscripts open to the public, that is, readers can read all the referees' review opinions and authors' responses. It is for the publishing process of a scholarly journal to be more transparent and just, in order to dismiss all doubt concerning whether it is a decent journal publisher, with authentic review records. Even though OPR might not be the cure-all that solves the problem of predatory journals, it may help present partial truth and decency, and seems to be the most adequate procedural check.

The *JoEMLS* has implemented the OPR system since Issue 2, Volume 56 of 2019. So far 17 articles of four issues have been published in the *JoEMLS*. Based on manuscript categorical features and special factors, we prudentially asked the authors and referees of 14 articles about their willingness of participating in the OPR system, and authors of 11 articles agreed. Among the 30 referees of these 14 articles, 10 referees agreed to make their review opinions open with their names disclosed, 13 agreed to make open in anonymous, and the rest declared they were unwilling to make open or did not respond to the requests. Eventually we have produced 10 general reports and three individual reports, for the readers. From our one-year experience of implementing the OPR system, we found that the

key to the success of OPR, is the consensus and corporation among the major beneficial interests of OPR (e.g., authors, referees) and the secondary beneficial interests (e.g., readers, editors). In terms of OPR, this not only involves rights and obligations of both authors and referees, but also concerns a deeper meaning regarding design of the OPR system, journals' brand images, and readers' privileges. It has not been too long since the OPR system was implemented and promoted, thus although some authors or referees may support the concept of OPR, they still tend to reserve their opinions and declared they were unwilling to make the record open for the time being. They might have concerns about academic peer pressure, or they still had not perceived the positive effects that OPR might bring. To sum up, since the OPR is a kind of diverse and innovative mechanisms without a universal operation mode, we will keep observing and improving implementations of the OPR.

We would like to remind you that in this issue of the *JoEMLS* (Volume 57, Issue 2), we have uploaded to the official website the examples of referencing styles in Chinese and English, following the guidelines of the latest 7th version of APA and the 9th version of Chicago (Turabian). This demonstrates our high regard for these two style manuals of academic papers. Readers are welcome to use this reference.

Many manuscripts submitted for this issue did not properly follow our editorial guidelines, and thus were rejected at the beginning. Nine manuscripts have gone through the whole review process, and four were accepted, with a rejection rate of 55.6%. Manuscripts published in this issue include "A Preliminary Investigation of Taiwanese Researchers' (Mis)understandings of Academic Ethics: Taking the Reported Cases Relating to Plagiarism, Improper Citations, and Self-Plagiarism by the Ministry of Science and Technology as Examples" by Mei-Lien Hsueh, Sophia Jui-An Pan, and Chien Chou; "Tracking the Scholarly Influence of Dervin's First Paper on Sense-Making Methodology" by Yu-Wei Chang and I-Jen Li; "Exploring the Patients' Mental Model of the Sunshine Social Welfare Foundation's Support Group on Facebook: A ZMET Approach" by Yi-Chiao Vicky Tseng and Ming-Hsin Phoebe Chiu; and "An Application of Inquiry-Based Quality Talk to the Flipped Design and Teaching of 'Reading & Writing' Courses" by Tina Pingting Tsai, Chingsheng Hsu, and Jyhjong Lin.

Thanks the authors of accepted manuscripts in this issue, for their outstanding contribution to the academic knowledge. Our deep gratitude is also sent to the authors and referees who are willing to support our OPR system.

Jeong-Yeou Chiu  
*JoEMLS* Chief Editor



# A Preliminary Investigation of Taiwanese Researchers' (Mis)understandings of Academic Ethics: Taking the Reported Cases Relating to Plagiarism, Improper Citations, and Self-Plagiarism by the Ministry of Science and Technology as Examples

Mei-Lien Hsueh<sup>a</sup> Sophia Jui-An Pan<sup>b</sup> Chien Chou<sup>c\*</sup>

## Abstract

All researchers involved in scientific inquiries have an obligation to follow the norms regarding academic ethics to ensure the quality of their research and to gain trust from the public. As the primary funding agency in the Taiwanese government, the Ministry of Science and Technology of Taiwan (MOST) has published various academic ethics-related regulations and policies. The MOST also irregularly releases case summaries of academic ethics violations. However, whether Taiwanese researchers fully understand the academic ethics-related rules and policies of the MOST remains debatable. In this vein, the present study adopts a survey method, inviting five experts of academic ethics and 232 local researchers (i.e., principal investigators [PIs] of MOST-funded research projects) to explore their (mis)understanding regarding the topics of plagiarism, improper citations, and self-plagiarism through case scenarios. The current results suggest that the participants (both the experts and PIs) do not seem to understand the definitions of the three topics above fully; they also hold different opinions on the credit attributions between advisors' funded research and students' dissertations. In conclusion, the results of this study are expected to be used as references for the amendment of current academic ethics-related regulations and policies of the MOST as well as local universities and colleges and research institutions.

**Keywords:** Taiwanese researchers, Academic ethics, Plagiarism, Self-plagiarism, Improper citation, Ministry of Science and Technology

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## SUMMARY

Researchers should follow regulations on academic ethics for ensuring research quality and gaining the trust of the public. The Ministry of Science and Technology (MOST) in Taiwan, as one of the government agencies in charge of subsidy for academic research, has issued relevant regulations and guidelines for academic ethics for the subsidized researchers to follow, including *Statement on Academic Ethics by the Ministry of Science and Technology* (Ministry of Science and Technology [MOST], 2014), *Academic Ethics Guidelines for Researchers by the Ministry of Science and Technology* (MOST, 2017; hereinafter referred to as the *Academic Ethics Guidelines*), and *Guidelines for Handling and Investigating Research Misconduct* (MOST, 2019b; hereinafter referred to as the *Handling Guidelines*). It should also be noted that the National Science Council (NSC, former MOST) ever published the *List of Cases of Academic Ethics Violations Handled by the National Science Council Between 1999-2010* (National Science Council [NSC], 2010a, hereinafter referred to as the *List*) and required research institutions to strengthen their promotion for avoiding recurrences (NSC, 2010b, p. 1). MOST had ever expressed their expectations that local researchers would learn academic ethics and be alert to the wrongdoings in research through the publishing of the cases.

Despite the regulations issued and efforts taken by the MOST to prevent research misconduct, there still has been an increase in cases involving academic plagiarism in recent years. Has the announcement by NSC ever had an expected effect of reminding or educating the public? It is a question worth investigating. Hence, this study aimed to explore local researchers' understanding regarding the concepts of plagiarism, improper citations, and self-plagiarism, including whether their knowledge was in line with MOST's definitions on these terms. This study specifically investigated the extent to which local researchers understood the concepts mentioned in MOST's academic ethics-related codes through their interpretations and judgment of real cases of academic ethics violations reported in the literature.

## Research Method

The current study adopted a survey method to fulfill its purpose. The *List* (NSC, 2010a) mentioned above and the publication *A Study on Academic Ethics Regulations* by Tang (2005-2006) were analyzed for adapting relevant cases or writing up new cases. The authors developed the survey cases by minor editing the published literature so that the tone of narration could be retained. The survey contained eight cases, each with a major issue, covering the general concepts related to plagiarism, improper citations, and self-plagiarism. Each survey case



consisted of two parts. In the first part, the respondents were asked to answer whether the person described in the given scenario violated academic ethics or not. If a violation was considered, the respondents were then asked in the second part to determine the type of the breach.

Two groups of local researchers were targeted to be research participants of this study: academic ethics experts (AEEs) and MOST-funded principal investigators (PIs). On the one hand, a total of five AEEs were invited to participate in this study. Their professional background included law, life science, linguistics, and electrical engineering. Four of them were full professors, and the other one worked in the MOST as a senior staff and was in charge of academic ethics affairs. All of the AEEs had ever involved in the investigations of academic ethics violations. On the other hand, the authors did random sampling and sent the survey to local researchers who were PIs of MOST-funded research projects. From randomly sampled 1,375 PIs, a total of 232 PIs responded to this study. Their professional backgrounds were diverse across science and engineering, social science and humanities, medicine and agriculture, etc. They were ranked differently, including assistant, associate, and full professors/research fellows.

## Research Results

The analysis of survey results revealed that, first, local researchers seemed to be unclear on the concepts about plagiarism and improper citations. This might have resulted from the fact that they were not aware of the differences in cited objects and considered improper citations as minor misdemeanors of violating academic ethics. In contrast, plagiarism was considered more severe than improper citations in terms of violation.

Second, these local researchers interpreted and judged the concepts of plagiarism, improper citations, and self-plagiarism in different ways. Considering self-plagiarism and improper citations as two different concepts, or had different interpretations of these two, the local researchers' understanding and explanations of the two concepts were not entirely in line with MOST's definitions on these terms.

Third, some local researchers had a vague knowledge of relevant regulations on self-plagiarism and duplicate submissions, as addressed in *Handling Guidelines*.

Lastly, as to the copyright attribution of research projects supervised by professors and degree theses conducted by graduate students, local researchers seemed to deem students' degree theses as co-publications between supervising professors and students, and thus considered that it was not necessary to put citations when re-using the materials in students' degree theses. The results also

indicated that the published cases of academic ethics violations were too brief in describing case details. It might lead to a barrier to meet MOST's intended educational goals. In other words, the current results showed that the effect of publishing cases might not be as high as what the MOST expected initially. This situation could attribute to the insufficient detailed information provided in the construction of the whole pictures of those cases. Therefore, local researchers were unable to gain enough knowledge from the published instances or to meet the intended goals of the publishing for the prevention of these wrongdoings.

### Conclusions and Suggestions

Based on the findings, an explanation of relevant regulations on academic ethics issued by MOST and three suggestions were provided for the reference of MOST and academic research institutes when revising policies of academic ethics.

First, certain discrepancies exist in the transcription of definitions and phrasing regarding plagiarism, improper citations, and self-plagiarism between *Handling Guidelines* and *Academic Ethics Guidelines*, thus some local researchers misunderstood the exact concepts of these terms. Therefore, it is necessary for the MOST to carefully review its regulations on academic ethics and consider refining the definitions of the terms to deliver the concepts and knowledge behind the descriptions competently and for the consistency of rules and phrasings. The MOST should also strengthen the promotion and explanation of the regulations for helping researchers clarify relevant concepts.

Second, the MOST should provide detailed guidance on disputes between supervising professors and students regarding copyright attribution and subsequent use of degree theses. The guidance should be operationally clear enough to resolve the common considerations among researchers, such as those indicated in this study. Members of academic research institutions should be clearly informed with the guidance.

Third, in the *List*, the presentation of cases was overly abridged and could neither advance researchers' understanding of academic ethics nor generate educational effects. Consequently, it likely had limited impacts on preventing violations of academic ethics. Therefore, it is expected that MOST could make public more details of the background information of the instances, with the de-identification of personal information. The publication of instances with more details would enhance the potential of the materials to meet their educational purposes.

# ROMANIZED & TRANSLATED REFERENCE FOR ORIGINAL TEXT

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# Tracking the Scholarly Influence of Dervin's First Paper on Sense-Making Methodology<sup>ψ</sup>

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## Abstract

Brenda Dervin presented a paper in 1983 titled “An Overview of Sense-Making Research: Concepts, Methods and Results to Date” at a conference. She presented the “Sense-Making Methodology (SMM)” in the 1983 paper with the introduction of its core concepts, methods, and applications. SMM is a user-centered theory for methodology and has been widely applied to a wide range of fields. The findings of this study show that the 1983 paper has a long-term influence on other research articles and its influence has expanded into more disciplines and topics over time. Most of 283 articles citing the 1983 paper were information behavior articles published in journals of library and information science. This study contributes to confirm that the primary influence of this 1983 paper was established by a few concepts related to SMM. Not all three basic concepts constructing the SMM, “gaps”, “situations”, and “uses”, were the most influential concepts in terms of number of citation contexts. “Gaps” was the most frequently cited concept related to SMM (17.5%), closely followed by “sense-making/nonsense-making (17.3%)”. However, “SMM” was the most influential concept in terms of number of research topics of citing articles.

**Keywords:** Sense-Making Methodology, Citation context, Bibliometrics, Research influence

## SUMMARY

This study used citation context analysis to explore the scholarly influence of Dervin's first paper on Sense-Making Methodology (SMM), which was presented at a conference in 1983. SMM is a representative user-centered theory of information behavior appeared in an early period when information behavior research began to emphasize the importance of information users around 1970s. Dervin introduced the SMM with a conference paper titled “An overview of sense-making research: Concepts, methods and results.” The assumptions, methods, and results of studies using the Sense-Making approach were detailed in

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the 1983 paper. After 1983, Dervin continued to advance the SMM and published several papers related to SMM. This indicates that the 1983 paper established a foundation of SMM. The original SMM paper has to be explored while tracking the evolution of SMM and its influence on other studies. Thus, this study only focused Dervin's 1983 paper.

SMM is an approach to research, consisting of several concepts. To confirm how this 1983 paper demonstrated its scholarly influence on other researchers and their research, the method of citation context analysis was used to identify what content cited by other researchers and their reasons. Conducting the citation context analysis highly relies on the understanding of researchers' understanding of SMM. The findings of this study help us understand the research value of this 1983 paper. Moreover, we can verify how various concepts of SMM were used by other studies and whether the SMM concepts are the main reason that generated the scholarly influence of this 1983 paper. The citation context analysis was conducted by reading the texts surrounding the in-text citations citing the 1983 SMM paper and then identifying the influential concepts embedded in a cited paper. The relationship between citing articles and the 1983 SMM paper can be investigated through citation context analysis. In addition, we observed the changes in citation contexts over times.

A total of 457 in-text citations found in 283 articles citing Dervin's 1983 paper on SMM were analyzed in this study. Two interdisciplinary citation index databases, Web of Science and Scopus, were used to search citing articles that were published in English and before 2019. After examining the reference list and in-text citations of each citing article, 457 in-text citations were marked for analyzing the cited contents and cited reasons. Typically, one in-text citation represent one citation context if it cites a single concept. Based on data analyzed in this study, the number of citation contexts ranged between one and 11. The average citation context of a citing article was 1.6. Most citing articles (68.9%) were found to cite the 1983 paper once with one citation context.

The results of this study show that the 1983 paper has an interdisciplinary influence, supported by the fact that 283 citing articles were published in journals across 19 disciplines. The discipline attribute of a citing article was determined by referring to the subject category of the journal assigned by Journal Citation Reports. For journals with two or more subject categories, their disciplinary attributes were decided by referring to the classification numbers of the journals recorded in the database Ulrichsweb. The 1983 paper was highly influential in the field of library and information (LIS). 73.9% of citing articles were published in the LIS journals. Two disciplines with the same second largest number of citing articles were computer science, and business and economics, which accounted

for only 4.2% of citing articles individually. To confirm what research topics of studies were influenced by the 1983 paper, we determined the single main research topic for individual citing article by examining the titles, keywords, and abstracts. Over half of citing articles (54.4%) were related to information behavior, followed by information retrieval (13.4%). This study confirmed that the 1983 SMM paper has the greatest influence on Information behavior articles published in LIS journals, 64.6% of the 209 LIS articles citing the 1983 paper. This meets our assumption because the 1983 paper focused on the topic of information behavior. Moreover, a trend of increasing proportion of citing articles on information behavior was observed.

Four hundred and fifty-seven in-text citations collected from 283 citing articles were analyzed with regards to specific influential concepts embedded in the 1983 paper. Except for six in-text citations, each in-text citation was associated with one citation context and presented a specific concept citing from the 1983 paper. Each of the six in-text citations was observed to cite two categories of concepts from the 1983 paper. Thus, a total of 463 citation contexts were analyzed and counted for reporting the findings of cited concepts. Among 15 categories of the cited concepts linking to the 1983 paper, the concept "gaps", which referred to information needs, was cited most (17.5% of all citation contexts). The "sense-making/non-sense making" concept was a close second most cited concept (17.3%). For the three essential aspects of SMM, "gaps", "situations", and "uses", "situations" and "uses" were not cited as frequently as "gaps" was. "Situations" was the fourth most cited concept, referred to the time-space contexts at which sense in constructed or unconstructed. "Uses" was the eighth most cited concept (5.6%), referred to the helpful or blocking information. In addition, comparing the changes in proportions of each cited concepts over time, the top one cited concept "gaps" revealed an increasing trend.

For the analysis of cited reasons based on the 457 in-text citations, this study adopted the 10 categories of cited reasons used by a previous study. "Related studies" was the most common cited reason and had been the number one cited reason over time because the "literature review" was one requirement for an academic article, accounted for 36.5% of 463 citation contexts. Eight out of the 15 cited concepts were cited frequently for the reason of "related studies". The second most common cited reason was "term" (13.0%) for which the authors of most citing articles only mentioned the term "SMM" or "SMM is an information behavior theory" without further statement. The findings also showed that the cited concepts were cited for various reasons. Three concepts ("gaps", "sense-making/non-sense making", and "introduction of SMM") were cited by nine possible reasons except the "research method" Reason. To improve the precision

level of a specific cited reason, the location of a citation context where an in-text citation was placed was also analyzed due to the connection between the locations and the cited reasons. For example, “related studies” were frequently stated in the Introduction section or Literature Review section. Among the 10 locations in various sections of a scholarly paper, “literature review” was confirmed to be the number one location with the largest number of in-text citations.

This study confirmed that all cited concepts were related to SMM, which indicated that the 1983 paper is an essential paper on SMM. In addition, although the concept of sense-making approach was not the most influential one with the largest number of citation contexts, it was observed to be applied by citing articles published by non-LIS disciplines the most. The citing articles were only collected from two databases. This means that the scholarly influence of the 1983 paper on SMM is underestimated. Additionally, only the 1983 paper was the focus in this study, and Dervin has published other publications on SMM. The influence of SMM can be reflected in other publications related to SMM. Therefore, this study suggests expanding the studies of the influence of SMM by adding other SMM publications by Dervin. The differences in influence between various publications related to SMM can be compared.

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# Exploring the Patients' Mental Model of the Sunshine Social Welfare Foundation's Support Group on Facebook: A ZMET Approach<sup>ψ</sup>

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## Abstract

*With popularizing the Internet, more and more resources and services have emerged along with social networking sites. The Sunshine Social Welfare Foundation's online support group on Facebook was set up for patients with burn and scald injuries. It provides a platform for patients to possibly restart a new life via support groups. The purpose of this study is to explore the participants' mental model of Sunshine Social Welfare Foundation Support Group on Facebook, and to understand the underlying thoughts and needs of patients of burn and scald injuries by using the Zaltman Metaphor Elicitation Technique (ZMET). This study recruited 8 patients as research participants and collected a total of 72 pictures. The ZMET was applied to understand each participant's thoughts, while metaphor analysis was used to investigate the results and core values, which were then drawn into consensus map for further analysis. In conclusion, three main findings are as follows: (1) The mental model of participants on online support group is to get back to their normal life, participate in education and learning, and need spiritual support. (2) Patients receive hope and goal of life from online support group. (3) The participants need the online support group for enhancing themselves, to promoting social values and developing future. According to these results, some suggestions are made for patients of burn and scald injuries and social welfare organizations and departments.*

**Keywords:** Sunshine Social Welfare Foundation, Zaltman metaphor elicitation technique (ZMET), Mental model, Online support patient group

<sup>ψ</sup>This article was adapted from a master's thesis under Yi-Chiao Vicky Tseng "Using ZMET to Explore the Participants' Mental Model of Sunshine Social Welfare Foundation Support Group on Facebook."

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## **SUMMARY**

### **Introduction**

With popularization and advancement of the Internet, modern Internet users are used to searching for some useful resources by themselves. Social networking sites become a bridge for them to communicate with other users. The Sunshine Social Welfare Foundation's online support group on Facebook was established for patients with burn and scald injuries. In order to explore the need of participation in the patient support group for patients of burn and scald injuries, a special research method is needed to extract their underlying thoughts and feelings. In this study, we adopted Zaltman Metaphor Elicitation Technique (ZMET) to explore the mental model of patient support group for patients with burn and scald injuries. ZMET involves using the linkages formed by perception and cognition and explores research participants' ideas, and these ideas are expressed and collected through visual elicitation techniques. ZMET can also construct a Consensus Map of participants through story telling. Therefore, this study defined the presentation and expression of the mental model through a Consensus Map, which captured and explained the ideas and behavior of participants in The Sunshine Social Welfare Foundation's online support group on Facebook. This study had two research objectives. The first objective was to understand how the patients with burn and scald injuries faced and dealt with the injuries and to investigate how they supported each other through the online patient support group. It would extract the participants' ideas in common to construct the consensus map by using ZMET. Second, through common mental models, this study was conducted to understand the underlying needs and the value of burn and scald injuries patients who participated the Sunshine Social Welfare Foundation's online support group on Facebook. It would identify the functions and operations of related social welfare online support groups that can help patients heal through social support.

### **Review of Literature**

The literature review consisted of two parts. First, it discussed the influences, which included the aspects from physical, mental, and social, of patients with burn and scald injuries. Second, to further explore the function and experiences of patient support groups, the literature review also presented the experience of patients with burn and scald injuries who took part in the support groups and the relationship between social networking sites and patient support. In summary, there were limited studies that focused on patients of burn and scald injuries who seek support from patient support groups, not to mention the online patient support groups. Therefore, this study aimed to use ZMET to construct a common mental model of the participants of the online patient support groups

and to understand their perceptions and thoughts about Sunshine Social Welfare Foundation's online support group.

### **Research Methods**

This study used ZMET as its data collection method. ZMET, which is a qualitative research technique using semi-structured interviews, can be used to explore the underlying thoughts and feelings of the research participants on specific research themes under investigation. It uses photos as the channel to elicit and later represent participants' thoughts. ZMET also modified two valid and reliable techniques, Kelly Repertory Grid and laddering, which are used in eliciting constructs. The Sunshine Social Welfare Foundation's online support group on Facebook was set up for patients with burn and scald injuries. It provided a platform for patients to possibly restart a new life via group member interactions. In this study, a total of 8 active participants participated in the interviews and contributed pictures that indicated what topics matter to them as patients who sought support from the Facebook online patient support group. The interview guide included four important parts: 1. to elicit the metaphor concepts, 2. to represent the specific perceptions, 3. to elicit thoughts to form sensory images, and 4. to identify the core of consensus concepts.

This data of the study was based on the collected pictures and interviews. It combined "user number" + "picture number" in order to assign codes to groups. These codes were classified into three levels, essence, function & sense, and ultimate value. The essence was the initial thought that was elicited from the interviews about the online support group. When asked why an idea was important to interviewees, the research participants could express the functions & sense that mattered to them about the online support group. Until there were no new ideas and feelings came from the interviewees, these concepts were called the ultimate value. This study also used the metaphor analysis to analyze the data collected from the interviews. It was set up as three parts. First, a compilation of 8 participants' metaphorical expressions served as the basis for deriving a set of thematic categories. The next step was to abstract the thematic categories to conceptual metaphors. These conceptual metaphors labels determined by the research team. Finally, the thematic categories and the conceptual metaphors identified the deep metaphors to represent in research data. The deep metaphors represented a higher level of abstraction than the conceptual metaphors and are fundamental guiding concepts that serve as an organizing framework for data analysis.

### **Research Findings**

1. This study elicited 12 constructs for the essence level, 58 constructs for the functions & sense level, and 32 constructs for the ultimate value level.

According to the rules of constructing a consensus map, it elicited 20 constructs in common to create the Consensus Map.

2. The core mental model of the participants of the Facebook online support group was to get back to their normal life, to participate in education and learning, and to seek social support. The goal for patients with burn and scald injuries was to get back to their normal life as soon as possible due to the long duration of rehabilitation for patients. They still could obtain more opportunities, for example, some courses were offered to prepare patients to take care of scalds and burns. Furthermore, people of the Facebook online support group are friendly and were willing to provide social support to each other.

3. Participants received hope and form new goal of life from the Facebook online support group. Everyone felt equal on the online support group because of the injury. They shared the same feelings and could rebuild their confidence. They thought that joining the online support group is a bright goal and hoped that it could guide them from the bottom of hopelessness and helplessness.

4. The participants needed the online support group for enhancing themselves, promoting social values, and developing goal for the future. Through social support, an inheritance of experience and the rebuilding of confidence were acquired to enhance themselves; and then they needed to make new friends and develop new relationship to upgrade their social life; finally, they could stay with the group and seek for feedback for themselves.

### **Conclusion and Suggestions**

According to these results, some suggestions are made: 1. for patients of burn and scald injuries, recently diagnosed patients should properly use online resources and get back to their normal lives. Also, for passing on education and continuing learning, existing patients are encouraged to become volunteers. 2. For related social welfare organizations, they need to increase the public exposure to enhance the group cohesiveness. 3. In terms of the research methodology, using ZMET to explore the sensitive issues is more likely to obtain underlying needs and thoughts of participants. 4. In terms of the data analysis approach, using questionnaires as a data collection technique can probe the missing concepts in the future. 5. Analyzing multiple online support groups may discover more functions and important values in online support groups for patients of burn and scald injuries. 6. In terms of using ZMET in the medical research, the visual data elicitation technique can potentially elicit valuable data, as it can elicit the deeper thoughts from participants, especially for sensitive issues or members of from the ethnic groups.



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JoEMLS English Summary

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# An Application of Inquiry-Based Quality Talk to the Flipped Design and Teaching of “Reading & Writing” Courses<sup>ψ</sup>

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## Abstract

*In recent years, called from the Ministry of Education, “reading and writing” has become a core course in the general education sectors of universities. Its characteristics are mainly to cultivate students’ abilities about emphasis analysis, reason narrative, and scenario design. Further, flipped learning is commonly used for the teaching of its classes. This paper presents how to integrate an innovative inquiry-based quality talk in flipped learning and then proposes, in such a new integrated flipped learning model, a “reading and writing” class design method for enhancing students’ learning effects on their “reading and writing” abilities. Then, this method is applied to the ‘food literature’ unit in a “reading and writing” course at a domestic university to design its learning contents and inquiry-based quality talk activities. For verification, a quasi-experimental study on the comparative analysis and its associated questionnaires have been conducted to validate the effects and students’ satisfaction of applying the new model to “reading and writing” classes.*

**Keywords:** *Flipped learning, Inquiry-based quality talk, “Reading and Writing” course, Class design, Practical teaching*

## SUMMARY

In recent years, called by the Ministry of Education for enhancing college students’ reading and writing abilities to facilitate their career development, “reading and writing” has become a core course in the general education sectors

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of domestic universities. Its major goal is to advance students' abilities of emphasis analysis, reason narrative, and scenario design, thus its classes usually include various learning units with distinct features and subjects. Further, curricular contents and teaching methods are also expected to be vivid and innovative for promoting students' learning interests and outcomes. In addition, flipped learning is a common teaching method used in such "reading and writing" classes. It encourages students to preview curricular contents before classes using digital media such as PDF/ePUB3 eBooks, videos, and VR/AR displays, and then discuss assigned topics in classes, for advancing their learning of reading and writing abilities. After then, for strengthening the effects of students' discussions, domestic education sectors have also employed Quality Talk (QT) in their flipped "reading and writing" classes to augment students' abilities of knowledge exploring and problem solving for enhancing their learning effectiveness.

Although certain teaching experiences have been accumulated in such QT-employed flipped "reading and writing" classes, a limit can still be found. The major goal of these classes is to advance students' abilities of emphasis analysis, reason narrative, and scenario design. Their students' discussions thus address usually the applied writing about the subjects of curricular contents. Therefore, an adequate guidance in discussion activities is needed. On the other hand, the current QT-employed approach emphasizes in-depth discussions through self-conducted group interactions and dialogues. There is no proper guidance in their discussion activities.

To address this limit, this paper extended the existing QT-employed flipped learning by investigating how to enhance the effects of students' topic discussions through adequate guidance on their discussion activities. For this research goal, the emerging Inquiry Learning method that provides a specific learning guidance in discussions is employed in the QT-employed flipped learning to develop a new inquiry-based QT-employed flipped learning model. In this new model, students can engage in more robust discussions through guided QT activities and hence improve their "reading and writing" learning outcomes.

To apply the new model and evaluate its effectiveness, a class design process is presented that specifies a class plan using the new model for the teaching of a flipped "reading and writing" class, and hence has the following four steps:

**1. Identify the learning objectives and teaching strategies of a "reading and writing" class**

In the first step, it is essential to identify the learning objectives and teaching strategies, because the learning contents and class activities should be designed according to its objectives and strategies. The learning objectives and teaching strategies can be identified by the works below.

- As mentioned earlier, a “reading and writing” class is designed to enhance students’ abilities of emphasis analysis, reason narrative, and scenario design, thus its learning objectives can be identified as: (1) analyzing curricular contents for identifying their emphases, (2) reasoning curricular contents for clarifying their means, and (3) applying curricular contents to the design of applications.
- Based on the learning objectives, the teaching strategies can be derived from such perspectives as (1) teaching methods (e.g., direct teaching, online learning, blended learning), (2) teaching strategies (e.g., the whole class, groups, individuals), and (3) teaching activities (e.g., self-conducted learning, content explaining, topic discussing). Therefore, for a flipped “reading and writing” course, the teaching strategies may include (1) individual online learning before the class (self-guided learning), (2) whole class direct teaching of learning contents during the class (content explaining), and (3) inquiry-based QT-embedded group discussions during the class (topic discussing).

## **2. Specify the learning activities of a “reading and writing” course**

The learning activities can be specified by the works below.

- Design the learning activities based on the identified teaching strategies. Therefore, for a flipped “reading and writing” course, its learning activities can be designed (together with any necessary assessment activities) as below (using a multi-class course unit as an example).
  - (1) Before all classes of the unit, students preview the curricular contents of this unit in digital media to comprehend these contents;
  - (2) At the beginning of the first class of the unit, students take a pre-unit test for assessing their comprehension on the subjects of this unit;
  - (3) In the first class, teachers give a lecture to explain the subjects and curricular contents of this class;
  - (4) In the first class, students have inquiry-based QT-embedded group discussions about the subjects of this class;
  - (5) In the remaining classes, the (1), (3), and (4) activities are repeated—students preview the curricular contents of these classes, teachers give lectures to explain the subjects and curricular contents of these classes, and students make inquiry-based QT-embedded group discussions about the subjects of these classes;
  - (6) In the last class of the unit, teachers give a summarized review for strengthening students’ comprehension and reflections about the subjects of this unit;
  - (7) At the end of the last class, students take a post-unit test for assessing their learning outcomes of this unit.

- Based on the features of the inquiry-based QT method, teachers then design the specifics for group discussions mentioned above in (4) and (5). As presented earlier, inquiry-based QT provides a specific learning guidance in discussions. Therefore, it can result in a series of steps (i.e., subject analysis of topic structure, strategic method of subject application, data collection and verification, layout design of application scenario, and narrative writing of scenario display) for guiding students to make QT-employed discussions in each of these steps.
- Specify the learning activities based on the above identified learning activities and discussion specifics. Therefore, the learning activities for a "reading and writing" multi-class unit can be specified as follows: (1) before all classes, students take 7 days to preview the curricular contents in digital media, (2) at the beginning of the first class, students take a 5-minute pre-unit test, (3) in the first class, teachers give a 15-minute lecture about this class, (4) in the first class, students make 80-minute inquiry-based QT-embedded group discussions, (5) in the remaining classes, the (1), (3), and (4) activities are repeated—students preview the curricular contents of these classes (7 days per class), teachers give lectures for these classes (20 minutes per class), and students make inquiry-based QT-embedded group discussions (80 minutes per class), (6) in the last class, teachers give a 80-minute summarized review, and (7) at the end of the last class, students take a 20-minute post-unit test.

### **3. Design and construct the curricular contents of a "reading and writing" course**

This step focuses on the content design and construction of the digital media used in a "reading and writing" course. In general, this can be achieved by considering what the curricular contents are and how they are incorporated in the digital media for enhancing students' learning outcomes. Since the "reading and writing" course focuses on the reading and writing concepts addressed in its curricular contents and the group discussions about the applied writing of these contents, its curricular contents are thus designed with clear content displays and post-reading questions, and then constructed in well-structured PDF eBooks for easy delivery to students.

### **4. Instruct and assess a "reading and writing" course**

After incorporating the curricular contents in digital media, the "reading and writing" course can be instructed in the scheduled times for its classes according to the above specified learning activities. For the assessment of its instructed classes, two methods are addressed below.

- (1) A quasi-experimental study on the control analysis of experimental and control groups is conducted to verify students' learning outcomes of applying inquiry-based QT-employed flipped learning in these classes.

- (2) Accompanied questionnaires are conducted to investigate students' perceptions of applying inquiry-based QT-employed flipped learning in these classes.

The above process was then practically applied to the teaching of the 'food literature' multi-class unit of a "reading and writing" course in a local university. A quasi-experimental study was conducted on the control analysis of experimental and control groups (27 and 36 students respectively), and its accompanied questionnaires was conducted on the experimental group. The assessment results revealed that the addressed class design, through the inquiry-based QT-employed flipped learning, can generate better learning outcomes of students' "reading and writing" abilities than those through the current QT-employed flipped learning. In addition, students were satisfied with applying the inquiry-based QT method in their flipped learning.

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# JoEMLS 註釋 (Notes) 暨參考文獻 (References)

## 羅馬化英譯說明

2015年1月31日修訂

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林信成、陳瑩潔、游忠諺，「Wiki協作系統應用於數位典藏之內容加值與知識匯集」，教育資料與圖書館學 43卷，3期(2006)：285-307。【Sinn-Cheng Lin, Ying-Chieh Chen, and Chung-Yen Yu, “Application of Wiki Collaboration System for Value Adding and Knowledge Aggregation in a Digital Archive Project,” *Journal of Educational Media & Library Sciences* 43, no. 3 (2006): 285-307. (in Chinese)】  
範例2－參考文獻(References)  
林雯瑤、邱炯友(2012)。教育資料與圖書館學四十年之書目計量分析。教育資料與圖書館學，49(3)，297-314。【Lin, Wen-Yau Cathy, & Chiu, Jeong-Yeou (2012) A bibliometric study of the *Journal of Educational Media & Library Sciences*, 1970-2010. *Journal of Educational Media & Library Sciences*, 49(3), 297-314. (in Chinese)】

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