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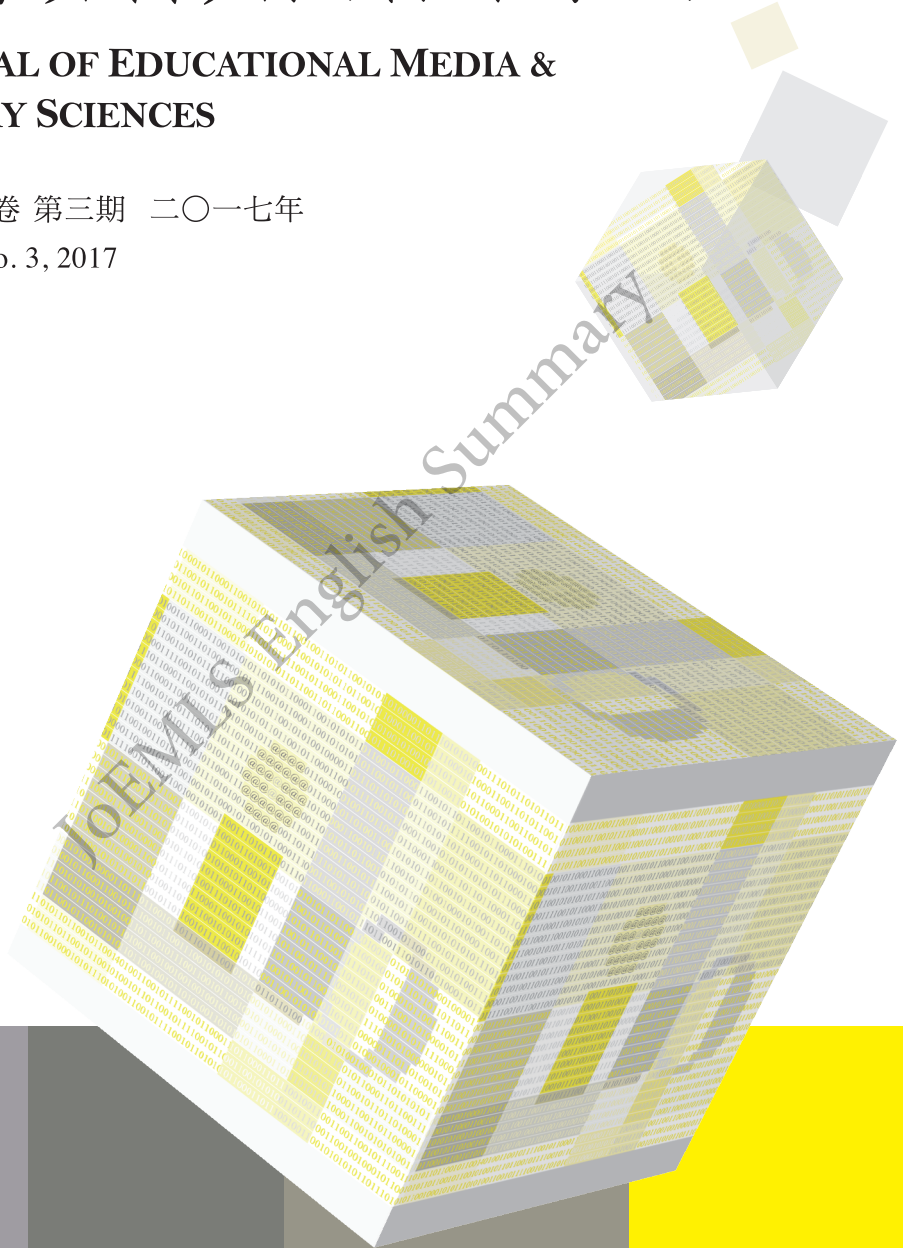
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# 教育資料與圖書館學 英摘版

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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A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 A 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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本刊係採開放存取 (Open Access) 與商業資料庫付費途徑，雙軌發行之國際學術期刊，兼具電子版與紙本之平行出版模式。本刊除秉持學術規範與同儕評閱精神外，亦積極邁向 InfoLibrary 寓意之學域整合與資訊數位化理念，以反映當代圖書資訊學研究趨勢、圖書館典藏內容與應用服務為本；且以探討國內外相關學術領域之理論與實務發展，包括圖書館學、資訊科學與科技、書業與出版研究等，並旁及符合圖書資訊應用發展之教學科技與資訊傳播論述。

### **Open Access 典藏政策**

*JoEMLS* 向來以「綠色期刊出版者」(Green Publisher / Journal) 自居，同意且鼓勵作者將自己投稿至 *JoEMLS* 之稿件，不論同儕評閱修訂稿與否，都能自行善加利用處理，但希望有若干限制：

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### **JoEMLS Editorial Policy**

The *JoEMLS* is an Open Access (OA) Dual, double-blind reviewed and international scholarly journal dedicated to making accessible the results of research across a wide range of Information & Library-related disciplines. The *JoEMLS* invites manuscripts for a professional information & library audience that report empirical, historical, and philosophical research with implications for librarianship or that explore theoretical and practical aspects of the field. Peer-reviewed articles are devoted to studies regarding the field of library science, information science and IT, the book trade and publishing. Subjects on instructional technology and information communication, pertaining to librarianship are also appreciated. The *JoEMLS* encourages interdisciplinary authorship because, although library science is a distinct discipline, it is in the mainstream of information science leading to the future of **InfoLibrary**.

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- (1) authors can archive both preprint and postprint version, the latter must be on a non-commercial base;
- (2) publisher's PDF version is the most recommend if self-archiving for postprint is applicable; and
- (3) published source must be acknowledged with citation.

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## EDITORIAL

# In and Beyond This Issue

In the past few months, three significant factors have played an important role in affecting the scholarly journal publishing in Taiwan, of which that is the most relevant to *JoEMLS* is, according to the new guide on journal rankings in library and information science field, *JoEMLS* has as usual been rated as the first grade journal and indexed into the TSSCI database. Quite intriguingly, Research Institute for the Humanities and Social Sciences (RIHSS), Ministry of Science and Technology, has issued an official letter to universities for expressing concerns and clarification about the dispute that some universities have limited the core journals to the first grade journals and rejected the second grade journals.

The truth is, the Ministry of Science and Technologies has from the beginning committed an error by mistaking the uses and terminologies of “Citation Index” and “journal ranking”. No wonder some universities would have doubts and concerns right now. It is not surprising that these universities would only acknowledge those “first-grade core journals”. Since the lists of TSSCI and THCI Core have being extended, universities naturally have to re-evaluate these journals and adjust their money distributions for encouragement. In Taiwan, the regulations and policies on scholarly journal publishing are often quite ambiguous and confusing, thus resulting in the continuing and implementation of wrong policies. This is a worrying issue.

The second factor affecting scholarly journal publishing in Taiwan is that, since it is not easy for journals of humanities and social sciences from non-English-speaking countries to be indexed into SSCI or A&HCI databases, it is reasonable that we have citation databases exclusively for humanities and social sciences in Taiwan. In the past years, the Ministry of Science and Technologies (National Science Council) has provided subsidy for commissioning Western publishers, such as Springer, to publish journals of Taiwan, with the hope that journals of Taiwan can be indexed into the international citation databases soon. However, if we take a close look at the past years’ records of expenditures, budget and performances (commitments) of these commissions, we can see that the outcomes of these efforts are actually not as expected. The truth might be quite embarrassing. In terms of databases or the meaning of scholarly publishing, these journals of “Taiwan” that are subsidized by the government are actually publications of Western companies. However, those scholars are quite enjoying the fake honor of staging on journals of overseas well-known publishing companies.

The third factor regarding academic publishing in Taiwan is that, the Ministry of Education and Ministry of Science and Technologies on one hand have always advocated “academic ethics”, but on the other hand have ambiguous attitudes toward the issue of the order of authors on a paper. According to the Academic Ethics Guidelines by the Ministry of Science and Social Sciences, in

the guideline 9 it is mentioned that “based on the for-better-for-worse principle, co-authors are responsible for the paper content within a reasonable range, that is, once an author has gain the co-authorship on a paper, he or she should be responsible for the contributed part...” This is obviously a degradation of academic ethics. When a “co-author” has to be responsible for only “the contributed part”, it is not possible to prevent greedy and cheating misconducts of inappropriate co-authorship. Some scholars might form specific authorship rings to list each other as co-authors, no matter how much each contributes, just for mutual benefits or power and influence. Once there are controversies on the paper, each author is only responsible for “the contributed part”. These people can always harvest the benefits of co-authorship on papers and get away from troubles, because their contributed parts tend to be not so important theories or paragraphs. In addition, some senior scholars or young scholars looking for faculty positions in universities tend to have a long list of publications on their resumes; they might be proud of their abilities of publishing six to ten papers of SSCI/SCI level every year, but they are unaware of the fact that they might be violating academic ethics. However, university principals or presidents are exerting their power to recruit these new faculty member with “many works to his or her credit”, for hoping to assist the school to squeeze into the QS World University Rankings, in order to gain the title and budget of “top universities”. The guideline 9 of Academic Ethics Guidelines of the Ministry of Science and Technologies is literally a scandalous one manipulated by a group of scholar tyrants in the Ministry. Officials, well-known scholars, junior assistant professors, and graduate students, are all indifferent toward this phenomenon, either for mutual benefits or under threats. If the new guidelines of Taiwan’s “academic ethics” are such abnormal and embarrassing, it is nonsense to expect a future of really normal academic ethics.

In this issue (Vol. 54, Issue 3), three of 13 manuscripts are accepted, with a high rejection rate of 76.9%. The problem of scarce manuscripts has reappeared. It is a warning sign to both our journal and the relevant academic field. We would like to thank the contributed authors for making this issue to be able to be published. The manuscripts published in this issue include, “The Impact of Camera Shot and Background Design for MOOC Videos on Student Recall and Flow Experience” by Pei-Yu Wang, “Exploring Collaborative Health Promotion Services between Public Health Centers and Public Libraries” by Tung-Chi Hu and Yu-Wei Chang, and “An Analysis of the Questions of Online Medication Consultation Service” by Kai-Ying Chu and Ming-Hsin Phoebe Chiu. With these authors’ hard works and reviewers’ efforts, *JoEMLS* is honored to have its present academic significance.

Jeong-Yeou Chiu  
*JoEMLS* Chief Editor



# The Impact of Camera Shot and Background Design for MOOC Videos on Student Recall and Flow Experience

Pei-Yu Wang

## Abstract

*The purpose of this study was to explore the impact of the camera shot and background design in MOOC videos on university students' recall and flow experience (including clear goals, unambiguous feedback, concentration on task, sense of control, action-awareness merging, loss of self-consciousness, altered sense of time, telepresence and positive affect). Ninety-eight university students in southern Taiwan were voluntarily recruited as participants and randomly assigned into four groups with different video design: 1) Single camera with head-on frontal view and the informal lab as the background, 2) single camera with three-quarter shots and the informal lab as the background, 3) two cameras with alternating full and three-quarter frontal shots and the informal lab as the background, 4) single camera with head-on frontal view and the blue screen as the background. Participants were asked to watch the video and complete survey. The findings showed that significant differences existed among groups on both learner achievement and flow experience. We found that 1) the video recorded by two cameras with alternating shot benefited recalling, and 2) the video recorded by a single camera with three-quarter shots and the informal lab as the background benefited learner sense of control. The superiority of these two types of videos shows learners' cognitive and attitudinal preference of camera shot design for MOOCs. These results could serve as a reference for future work on MOOC video or online instructional video design.*

**Keywords:** MOOCs, Instructional video design, Camera shot design, Flow experience

## SUMMARY

### Introduction

The use of videos has become a popular alternative approach to disseminate information and deliver instructional content in universities. Increasingly, professors are exploring the benefits of recording their lectures and making them available on the internet for students to access in different formats, and many courses have been built as massive open online courses (MOOCs) on platforms such as Khan Academy, edX, Coursera and Udacity. Millions of learners watch

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videos from these different platforms on diverse devices, and the videos are growing in importance in higher education. Despite the advantages of and great enthusiasm for online video-based courses, this type of course has been greatly criticized for its low learner engagement, resulting in marked low course and video completion rates. Researchers have suggested a number of reasons for learners' failing to complete these online instructional videos. Most studies argue that learners' attitudes or concerns and social support or evaluation are factors for the failure of many learners not to completing video-based learning.

The camera shot style (including both camera shot and background design) of the videos is also critical and influential on learner attention and engagement. However, limited empirical studies have addressed it. Studies that target video design as the research theme usually have specific concerns that emphasize visual design elements such as screen or interface layout rather than paying attention to how the image is captured, recorded and delivered.

To better understand the effect of the camera shot and background design on video learners, the following questions guided this study: **1) Is there any difference on learner recall among videos with different camera shot and background designs? 2) Is there any difference on flow experience among videos with different camera shot and background designs?** Recall and flow experience are the dependent variables in this study in order to target not only just learner cognition but the emotional dimension as well, including attention and engagement.

## **Literature Review**

The camera shot style is a critical issue for video-based learning. The eye of the camera has the potential to enhance or detract from the relationship between the instructor and the distant learner attending to the digital device. The instructor needs to move among the camera operations and select the camera shots for appropriate images at the right time. Maximizing the instructor's presentation quality will help ensure learning effectiveness.

Researchers argue that static and dynamic camera shots are techniques to influence video lectures. In a static shot, the camera does not move or change its aim within the shot, although the camera may move from the shot to the next shot, which is the most used approach in MOOC production. Static shots can be categorized in multiple ways: scale, angle, point of view, two shot and over-the-shoulder shots. This research focuses particularly on the horizontal camera angle design. Horizontal camera angle refers to moving the camera around the subject horizontally while aiming at the subject to create different camera angles: 1) frontal, 2) three-quarter front, 3) profile, 4) three-quarter rear, and 5) rear

(Kitagawa, 2017). Each camera angle creates a different influence on learners. Researchers found that compared with frontal video, the three-quarter front design increased learner attention and decreased stress (Ho & Wang, 2016). However, this was a small-scale study with limited generalizability.

Video background design is another factor addressed in this study. Video background refers to the settings where the instructor records the video. Researchers argue that filming in an informal setting could be more engaging than high-fidelity studio recordings, and more empirical evidence should be provided to support the argument.

## Method

The experimental videos were adapted from a Taiwan MOOC *Digital Content Production* (course delivered fall 2016 by the researcher). The original course was a 14-week online course that aimed to improve learners' knowledge and skill for mobile photography, digital imaging and video editing. There were seventy-nine videos in the course and all videos were lectures by the researcher. One video clip in Unit Two (Foundation of Mobile Photography) was selected as the content material for the experiment, and this video was reproduced and revised based on research needs.

The data collection was conducted during the 2017 spring semester. Ninety-eight participants were voluntarily recruited from two colleges in southern Taiwan for the study and randomly put into four treatment groups.

The treatment in this study was the camera shot and background design of the MOOC video. One video in Unit Two was selected as the experiment material for the study. The video was re-created in four versions with the same content, but with four different camera shot and background design.

### **Group 1: Single camera with head-on full frontal view in an informal lab setting**

The Group-1-video was recorded using a single camera with a head-on full frontal view of the lecturer. Beside the lecture's image was the textual or pictorial information for the key points. Videos were recorded with an informal lab as background.

### **Group 2: Single camera with three-quarter frontal shots in an informal lab setting**

The Group-2-video was recorded using a single camera with a three-quarter frontal view of the lecturer. Beside the lecture's image was the textual or pictorial information for the key points. Videos were recorded with an informal lab as background.

**Group 3: Two cameras with alternating full and three-quarter frontal shots in an informal lab setting**

The Group-3-video was recorded using two cameras with alternating full and three-quarter frontal shots. Beside the lecturer's image was the textual or pictorial information for the key points. Videos were recorded with an informal lab as background.

**Group 4: Single cameras with head-on full frontal view in a green screen studio**

The Group-1-video was recorded using a single camera with a head-on full frontal view of the lecturer. Beside the lecturer's image was the textual or pictorial information for the key points. Videos were recorded with a green screen as background.

All students had a 10-minute pre-test composed of 12 questions on mobile photography. Then, students were assigned into different treatment groups to watch different video clips, which took about 8 minutes. After students finished watching, they were asked to do a post test (a similar test to the pre-test). In addition, students' flow experience was collected by the survey developed by Chen (2006) for flow measurement; the survey's reliability and validity were both verified. Finally, informal interviews were conducted with participants to clarify their thoughts about the videos.

## **Results and Discussion**

This study explores the impact of camera shot design for MOOC videos on student recall and flow experience. The results show that significant differences exist on both learner recall and flow experience among groups. We found that the video recorded by two cameras with alternating shots in an informal setting benefited recall, and the video recorded by a single camera with a three-quarter frontal shot in an informal setting benefited learner sense of control.

Several possible reasons for the superiority of videos recorded by two cameras with alternating angle shots on recall were uncovered through the informal interviews conducted after the experiment. First, participants mentioned that this technique provided multiple sources of the lecturer image through which they could rebuild a vivid learning environment. Second, the lecture was composed by relatively shorter cuts so that learners were more likely to stay engaged. Compared with single camera designs, the provision of more shots with different angles of the lecturer makes the video active and dynamic, therefore facilitating learning outcomes.

In addition, students watching videos recorded by a single camera with three-quarter frontal shots performed best among groups in learner sense of

control. This result shows learners' attitudinal preference for videos with the three-quarter front shots style. Participants mentioned that the three-quarter shot approach provided a representation of the instructor's head posed about halfway between the frontal and profile views, which had more depth and volume. Also, participants indicated that the instructor in the three-quarter shots video lectured without looking straight at the audience, which learners found more relaxing and enjoyable. All these interesting results may serve as a reference for future work on MOOC video or online instructional video design.

## Conclusion

This paper examines the effect of camera shot design for MOOC videos on students' recall and flow experience. Findings in the study are: 1) videos recorded by two cameras with two alternating angle shots in an informal setting benefit recall, and 2) videos recorded by a single camera with a three-quarter frontal shot in an informal setting benefit learner sense of control. We will keep improving our video design and explore its effects on learning. Further studies with diverse treatment groups will be conducted soon to verify findings.

### **ROMANIZED & TRANSLATED REFERENCE FOR ORIGINAL TEXT**

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# Exploring Collaborative Health Promotion Services between Public Health Centers and Public Libraries

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## Abstract

*The increasing mortality rate of chronic diseases leads to that the World Health Organization advocates the concept of health promotion aiming to correct people's health awareness and behavior and enhance their public health self-control via use of correct health information and educational activities. Among various types of institution in communities, public health centers provide local health promotion services and public libraries are responsible for improving people's public health information literacy. Because public health centers do not understand the roles of public libraries, and vice versa, no collaborations have been built between them to strengthen health promotion services. The findings of this study showed that public health centers have actively cooperated with various types of institutions, based on interviews with 5 community nurses and 6 librarians. Public libraries have not promoted health information services. A supplementary relationship was found to exist between public health centers and public libraries according to their advantages and disadvantages. In addition, public health centers and public libraries were willing to cooperate to improve health promotion services. A propose consisting of three aspects was formed for policy makers.*

**Keywords:** Public health center, Public library, Health promotion services, Health information services

## SUMMARY

To reduce the mortality rate of chronic diseases, the World Health Organization advocates the concept of health promotion. It aims to raise people's health awareness and to enhance their abilities to maintain their own health via the use of correct health information and educational activities. In addition to individual characteristics, people's health is affected by other complicated factors such as economical, societal, and environmental issues. This means that people's health is not only responsibilities of health institutions including community health centers.

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Related literature shows that numerous health libraries and health information websites have been launched in the U. S. and Canada since 1970s because of the increase in health information seeking activities. Although medical libraries began providing health information services first, people prefer requesting health information from librarians at public libraries. The U. S. Department of Health stated that health librarians have the responsibilities to help people gain health knowledge, to provide high quality health information, to instruct health information literacy, and to solve health information requests. Librarians of public libraries also played a role in promoting people's health. Cases related information services and activities designed by public libraries can be found. This indicates that public libraries have provided health information services which are close to the health promotion services conducted by community health centers.

Due to geographical relationship and similar health information tasks, public libraries can be considered as one of partners of the community health centers in Taiwan for strengthening local health information services. However, there are no collaboration between the community health centers and the public libraries due to the lack of understanding and communication. To explore the possibilities that the community health centers can collaborate with the public libraries and to advocate the concept of health promotion, three research questions were addressed in this study. First, what types of health promotion services do the community health centers provide? How do the community health centers conduct these services? And how effective are these services? Second, what types of health information services do the public libraries provide? How are these services provided? And how effective are these services? Third, is it possible for the community health centers and the public libraries in Taiwan to collaborate for advocating health promotion services? What opinions do nurses and librarians have?

This study interviewed five nurses and six librarians. The data collected through interviews help us understand their opinions or suggestions. All participants were required to have worked more than three years and most of them were directors who were familiar with all tasks in their institutions. Experienced professionals can share more detailed information than young or entry-level professionals. In addition, considering the differences in characteristics of residents and the main functions of community health centers between cities and countries, all participants were affiliated with institutions located in Taipei and New Taipei cities. Prior studies have shown that residents in cities tended to have better education backgrounds and valued health information. Very few public librarians had the experience to provide health information services hence a health librarian who used to be a public library librarian and medical library librarians who were familiar with health information services were invited to participate in

this study. Participants were asked to talk about the types of health promotion services or health information services provided by their institutions, the methods used by them and how effective the various types of services are. Furthermore, the participants talked about challenges they faced and their opinions for collaborations between community health centers and public libraries.

The findings of this study showed that community health centers have actively cooperated with various types of institutions. However, they did not understand the roles and tasks of public libraries hence never collaborated with public libraries. When participants working for community health centers understood the services provided by public libraries, they were willing to support collaborations with them. Community health centers in Taipei city used to emphasize disease cure. In 2005, they were renamed the health service centers and have shifted to focus on health promotion services since that time. The main challenges that community health centers faced were lack of employees, limited number of residents they could provide services to, and the fact that most people did not recognize the importance of health. Community health centers need external resources to relieve problems.

Although public libraries have launched health information services for decades in the U. S., public libraries in Taiwan do not promote health information services. The current related services are concentrated at a specific library branch featuring health science collections and retired senior learning centers established within public libraries. The most popular activity was the lectures on health issues. Few residents requested for health information from the Taipei Public Library and a branch featured a health collection. New Taipei City Public Library even did not provide health information reference services. It is evident that there is a large room for improvement for the public libraries in terms of health information services. The biggest problem for providing health information services in public libraries was that the librarians do not have medical backgrounds. This made the librarians have no confidence to plan or provide health information services.

A collaborative relationship could be established between community health centers and public libraries based on their advantages and disadvantages. Nurses hold medical knowledge and community health centers can provide health related resources. Librarians are proficient in information literacy and can help improve residents' health information literacy. Furthermore, public libraries have large collections including health books. They are also appropriate places for residents to access health information because of the relaxing atmosphere. Lack of professional staff and budget are the common disadvantages held by community health centers and public libraries. To improve the quality of health

information services, collaboration is one of the best strategies. The results of this study confirm that nurses and librarians support collaborations between them in order to response to the advocacy of health promotion. The community health centers expressed their willingness to contribute their medical knowledge. They suggested that public libraries should recruit volunteers with medical backgrounds and refer requests to community health centers.

A proposal consists of three aspects was formed based on the analysis of interview data. First, national health policies made by governments directly impact the operation of health promotion services. Among various types of libraries, public libraries and medical libraries are two proper types of libraries to promote national health policy together with other institutions. Ministry of Health and Welfare has to clarify the roles and responsibilities of various institutions involving in the policy of health promotion. It can advocate the concept of health promotion into work settings by adding health issues into the scope of institution assessment. Second, content is the key. Health information has to meet residents' information needs. Public libraries and community health centers can establish health information systems together such as health information websites. In addition, a cloud-based system combining medical records and health information resources was proposed for providing individualized health information services. Third, good health information services rely on librarians' proficiency and plans. Health institutions, libraries, and library associations should work together to prepare health information literacy materials for residents, train librarians, and promote long-term programs for resident groups with different types of information needs. Public library branches featuring health collections and retired senior learning resource centers are the first appropriate places to provide health information services. To provide health information services with good quality, libraries have to encourage librarians to take related courses from universities. Furthermore, librarians can be required to get a health information librarian's license. This can make residents trust the health information provided by librarians more.

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JoEMLS English Summary

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# An Analysis of the Questions of Online Medication Consultation Service

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## Abstract

*Due to the development of the Internet, online medical consultation has become another source for consumers to search for medical information. Medication consultation is one of the medical consultation, and drug treatment acts an important role in the course of treatment for the patients. The health will be improved by following the medical compliance. Based on different demographic differences, the demand for the medical advice is also different. Thus, the research is based on the gender and age, and sets to analyze the expression, requirement and require performance characteristics of the online medication consultation. This study content analyzed 1,272 medication consultation questions posted on Taiwan e-Doctor platform, an official online medical consultation service supported by Ministry of Health and Welfare in Taiwan. It is aimed to provide insights and understanding into people's information need for medication.*

**Keywords:** Online medication consultation, Consumer health information, Information needs, Content analysis

## SUMMARY

Due to the development of the Internet, online medical consultation has become another source for patients, caretakers, and everyday users to search for medical information. Medication consultation is a subtype of the medical consultation, and medication treatments play an important role in the course of treatments for patients. Patients' health will be improved by medication intervention and following medical compliance. Based on demographic differences, the demands for medical advice are also different. Thus, this study is based on the differences of gender and age and sets to analyze the expression and behavioral characteristics of online medication consultation. It is aimed to provide insights and understanding into people's information needs about medication.

Medication information is a part of consumer health information. It is

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directly applied to the health information services that consumers need. Because of the Internet, the dissemination of medication information is no longer restricted to medical professionals' advice, medication package inserts, and labels on the prescription bottles and containers. To achieve effective results of medication treatments, patients' medication adherence must be reinforced, but the adequacy and sufficiency of patients' knowledge of medication will influence the consequences of medication use. Therefore, the review of literature would focus on the themes of (1) definition and examples of consumer health information; (2) online medication consultation services and some examples; (3) medication adherence and factors affecting medication adherence; (4) and medication information needs. The aim of literature review is to provide a foundation to construct the analytical framework for this study.

This study used content analysis to investigate medication consultation questions posted on the Taiwan e-Doctor platform (<http://taiwangedoctor.mohw.gov.tw/>), which is an official online medical consultation service supported by the Ministry of Health and Welfare in Taiwan. The consultation service is offered by a team of more than 240 licensed medical professionals, including medical doctors, nutritionists, pharmacists, and nurses. 1,302 medication consultation questions were retrieved and collected in April 2016. After eliminating questions that used English or other languages and the questions that were not related to medication, 1,272 questions were analyzed. Key themes under investigation were identifying the demographics of the consultation seekers (question askers), expression styles while communicating medication information needs, characteristics of the questions by medical specialties, and the characteristics of the motivation and perception of medication information needs. Data analysis was conducted using a Microsoft Office Excel-based codebook, and descriptive and reference statistics calculation and testing were conducted using the SPSS statistical software package.

The questions of medication consultation are articulated in a clear, identifiable, and less urgent tone, while female askers are more likely to disclose their self-identity. Most askers address the questions for themselves, but statistical test suggests that the relationship between askers' identify disclosure and their age is more significant for female askers. Female askers aged 13 to 25 and 26 to 35 are more likely to ask questions for themselves.

The findings reveal sixteen themes of medication information that askers need including medication laboratory trial, medication side effect and management, Chinese medicine, alternative medication, prescription for chronic disease, medication guides, access to medication, indication, medication instructions, ingredients, medication advice, drug classification and

categories, medication storage guidelines, medication contraindication, health insurance regulations. The information theme that is needed most by all askers are “medication side effect and management”, “indication” and “medication instructions”, but the female askers tend to ask more diverse questions that cover a wider range of subjects than the male askers. Age differences don’t necessarily influence the primary type of information askers need, but they do influence their secondary information need. For example, the askers aged 13 to 25 are more likely to need information on “medication side effect and management” than the askers aged 26 to 35. Also the askers aged 26 to 35 are more concerned with information on “drug classification and categories.”

The findings suggest that gender difference contribute to the differences in the content and structures of the questions. The female askers are more likely to provide more personal information than the male counterparts. Comparatively, the age differences illustrate less influence. The questions raised by the female askers show more diversity than those raised by the male askers but both genders focus on side effects and treatments, indications, and usage information. The theme that most people concern is similar but is slightly different in the secondary category of theme. The askers aged 13 to 25 years old and the age 36 years old and over have more questions about side effects and treatments than the 26-35 age group. The askers aged 26 to 35 are more concerned with the classification of drugs than other groups. Gender differences do influence the medical specialties by age group. The askers of “internal medicine” comprised most frequent askers. The male askers aged 13 to 25 are more concerned with their skin problems and thus the questions can be classified into dermatology. And the male askers aged 26 to 35 are more likely to need medication information on psychiatry than the other two age groups. Questions asked by female askers, on the other hand, are less likely to be affected by age. However, it is evident that female askers with aged 26 to 35 need more medication information on obstetrics and gynecology.

In terms of internal and external motivation, this study finds that the askers, regardless of gender, are more driven by internal than external motivation when consulting online for medication information. Internal motivation is driven by the need of information on the medication they are on or will be taking. On the contrary, external motivation is driven by the questions or concerns raised by information received from mass media or word-of-mouth. Female askers with aged 13 to 25 ask questions not related to the medication they are taking. The questions asked by female askers aged 26 to 35 are driven by the need to know more about the medication they have had taken in the past but the questions asked by the female askers with age 36 or over are driven by the need of medication information both before and after taking medication.

Medication adherence is influenced by patients' health decision and health belief. Based on Health Belief Model, medication adherence can be predicted by patients' perceived susceptibility, perceived seriousness, perceived benefits, perceived barriers, and other variables. This study confirms past study in the aspect that female askers' perceived susceptibility is higher than their male counterparts, and more women than men post their medication questions online, and they tend to develop their medication information needs prior and after taking the medication.

The future research direction of the inquiry is proposed from the perspectives of factors affecting medication information need and information seeking, usability and readability testing of medication packages and information sheets, and the analysis of answers provided by medical professionals to investigate and compare the communication patterns between patients and medical professionals. The limitation of this study lies in the fact that the pure text of online medical consultation only provides two types of demographic variables, which are gender and age. However, past studies suggest that there are other demographic variables that may influence medication information needs and medication adherence. Therefore, future studies may collect a wider range of demographic variables through survey to increase the predictability of findings. The findings also imply that the design of drug labels and the usability and readability worth further investigation in order to develop a set of guidelines for designing drug labels and packages. Lastly, a closer look at the communication patterns between information need and information provision is mandatory to investigate physician-patient communication in an online asynchronous environment.

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2015年1月31日修訂

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