

# Gender Differences In Learning Flickr: A Picture Is Worth A Thousand Words

ERIC ZHI FENG LIU and YU FANG CHANG  
Graduate Institute of Learning & Instruction  
National Central University  
No.300 Jung-da Road, Chung-Li City, Taoyuan  
TAIWAN  
totem@cc.ncu.edu.tw, yakinsky@gmail.com

*Abstract:* - Networking environments such as BBS, discussion forums, websites, wiki, Flickr, and blogs have become increasingly popular. Currently, the term Web 2.0 is widely used. It indicates that users have become the focus of Internet usage; moreover, unlike one-way information delivery, users can now upload and download data freely and conveniently. Flickr is one of the Web 2.0 tools. By using Flickr, users can easily upload photos and also share them with others. Furthermore, users can interact with each other by annotating pictures. For instance, students share creative photos and express their thoughts to peers or others through Flickr. Therefore, we hope to formulate a Flickr course for teaching students how to use this tool. The students' prior knowledge was analyzed as the first step of the ADDIE model. On the basis of the data analysis, we began to design the Flickr course. The results suggested that most students were satisfied with this course and that they were confident about using Flickr without gender differences.

*Key-Words:* - Flickr, ADDIE model, Instructional system design model, Web 2.0, Gender differences

## 1 Introduction

In the last few years, the Internet has become one of the important sources of information in our daily life; thus, many current studies have focused on Web 2.0 tools such as blogs, wiki, or Flickr in educational settings [1–2]. In particular, when using these technologies in educational environments, students can take advantage of collaborations or communication with a wide range of people [3–5]. Some of the emerging technologies, such as blogs, social bookmarking, and wiki, are already employed by educators in the current educational environment [6–8]. However, Flickr is rarely used in such a setting. One of the advantages of Flickr is that it facilitates a series of extended discussions and the expression of opinions beyond class meetings. Therefore, the purpose of this study is to design a Flickr teaching course.

## 2 Literature Review

### 2.1 Flickr

Flickr, an image and video hosting website, was developed by Ludicorp in February 2004 [9]; it also enables users to create online communities. In addition, Flickr was the first website to ask its users to generate tags for maintaining their photos and to

allow other users to search for and find photos more precisely. Besides, Flickr was one of the first websites to implement the tag clouds technique that provides access to images that are tagged with the most popular keywords [9]. Yahoo! acquired Flickr in March 2005 [9]; hence, Yahoo! users can also sign into Flickr using the same account. Every user of a free account of Flickr can upload up to 100 MB of data every month. In April 2008, Flickr allowed paid users to upload videos that are up to 90 seconds long and 150 MB in size [9]. The main page of Flickr (<http://www.flickr.com/>) is shown as Fig. 1.



Fig. 1: The main page of Flickr (<http://www.flickr.com/>).

The functions of Flickr are explained below.

- Sets:** Using this function, users can categorize their photos into different sets according to their needs. For example, they can create a set according to a particular topic; thus, users can manage their photos more conveniently. The set edit page enables users to first see all the photos under the edit page. Then, users can choose the photos that they want to place in a new set, as shown in Fig. 2. After choosing photos, users can name this new set and press the storage button in order to complete editing the set (Fig. 3).



Fig. 2: Select photos in order to create a new set (A snapshot from <http://www.flickr.com/>).

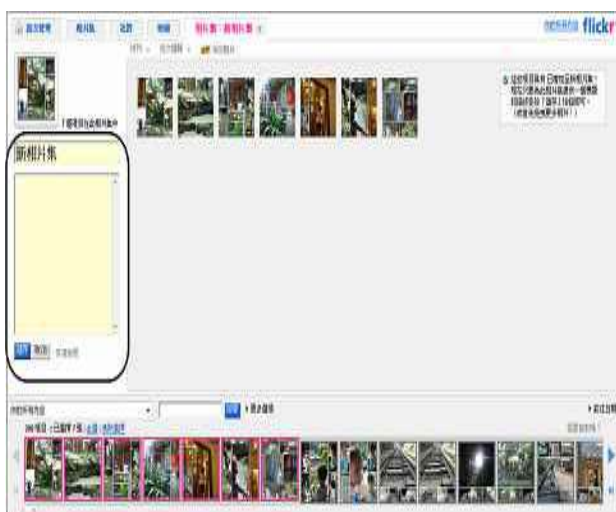


Fig. 3: Name the new set (A snapshot from <http://www.flickr.com/>).

- Group:** The group function is similar to the function of creating a community. Each user can choose a group they are interested in joining,

or they can create a new group according to their needs (Fig. 4). When users search for specific keywords, the system automatically lists search results by photos (Fig. 5) or by groups (Fig. 6). Users can then filter the groups they are interested in joining.



Fig. 4: Search for an interested group (A snapshot from <http://www.flickr.com/>).

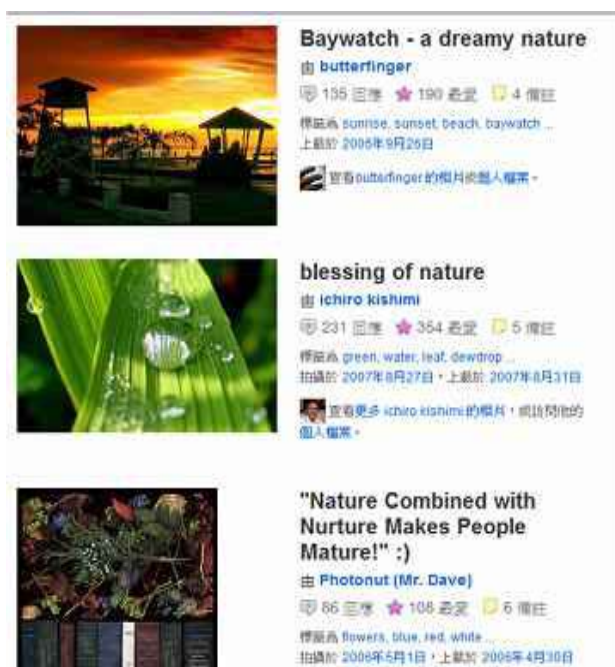


Fig. 5: Search results listed by photos (A snapshot from <http://www.flickr.com/>).







Fig. 10: Choose the function of adding photos to your map (A snapshot from <http://www.flickr.com/>).



Fig. 11: Search for your location on the map (A snapshot from <http://www.flickr.com/>).



Fig. 12: Add the picture to the map successfully (A snapshot from <http://www.flickr.com/>).

- **Explore:** The explore function of the Flickr system will randomly place some photos or groups on the explore page; thus, it widens the user's scope for searches. For example, if a user randomly selects a month (Fig. 13), Flickr shows the relevant photos on the page (Fig. 14). There are also other choices for exploring interesting photos (Fig. 15).



Fig. 13: Explore pictures from a selected month (A snapshot from <http://www.flickr.com/>).



Fig. 14: Selected pictures for each day of the month (A snapshot from <http://www.flickr.com/>).



Fig. 15: Other choices for exploring interesting photos (A snapshot from <http://www.flickr.com/>).

## 2.2 ADDIE Model

There are many different instructional system design models; however, most of them are based on the components of the ADDIE model [11]. The ADDIE model, a type of instructional system design model, was proposed by Lohr [11]. This model represents a dynamic and flexible guideline for instructors to develop effective training and course designs. The ADDIE model consists of five components: Analysis, Design, Development, Implementation, and Evaluation. Using this model can decrease instruction time and also clarify the evaluation list.

In the ADDIE model, the designer of instructional material or activities follows the following sequence of steps.

- **Analysis:** Designers must analyze the learners, learning target, instructional environment, and instructional resources. The designer must then identify the learning objectives and the required prerequisite knowledge.
- **Design:** Materials and activities must be appropriate for the learner capabilities, learning objectives, environment, and equipment. The main concern in this step is how learners learn.
- **Development:** Following the ideas generated in the design phase, designers determine the process of developing the instructional material.
- **Implementation:** Designers must determine how to implement the instructional material in the environment.
- **Evaluation:** Designers must determine how to assess whether the learning objectives were achieved and the quality of the instructional material. The assessment results should be used as feedback for improving the material or activity.

## 3 Method

### 3.1 Participants

In this study, we attempted to create a Flickr course to teach students how to communicate with others using photos. The participants in this study were 24 students (12 males and 12 females) who joined the introduction to instructional media course at a research university in northern Taiwan.

### 3.2 Procedure

The procedure for developing the Flickr course was based on the ADDIE model. It is explained below.

- **Analyze:** According to the ADDIE model, it is necessary to analyze learners' needs or prior knowledge before developing an instructional course. Among the 24 students who enrolled in the course, only four of them (16.7%) had used Flickr before attending the course (Table 1). Therefore, this Flickr course would first focus on basic functions.

Table 1: Students' prior experience of using Flickr.

	Yes	No
Male (N = 12)	1(8.3%)	11(91.7%)
Female (N = 12)	3(25%)	9(75%)
Total	4(16.7%)	20(83.3%)

- **Design:** Most of the students had no experience of using Flickr and lacked prior knowledge of the website. Thus, we decided to first provide students a detailed introduction to Flickr and then allow them to familiarize themselves with its basic functions. This Flickr course consists of five basic components: introduce Flickr, registration and sign in, upload photos and upload tools, how to use tags, and how to create sets.
- **Development:** The Flickr course was developed according to the five basic components mentioned above. The course was taught using PowerPoint and students could attempt to use Flickr step-by-step after viewing the slideshow. Below are some examples of our PowerPoint slides (Figs. 16–23).



Fig. 16: How to register and sign in (A snapshot from <http://www.flickr.com/>).



Fig. 17: Start to use Flickr (A snapshot from <http://www.flickr.com/>).



Fig. 18: Upload photos on Flickr (A snapshot from <http://www.flickr.com/>).





Fig. 19: Upload photos using the uploadr tool (A snapshot from <http://www.flickr.com/>).



Fig. 21: Edit function (A snapshot from <http://www.flickr.com/>).



Fig. 20: Edit tags (A snapshot from <http://www.flickr.com/>).

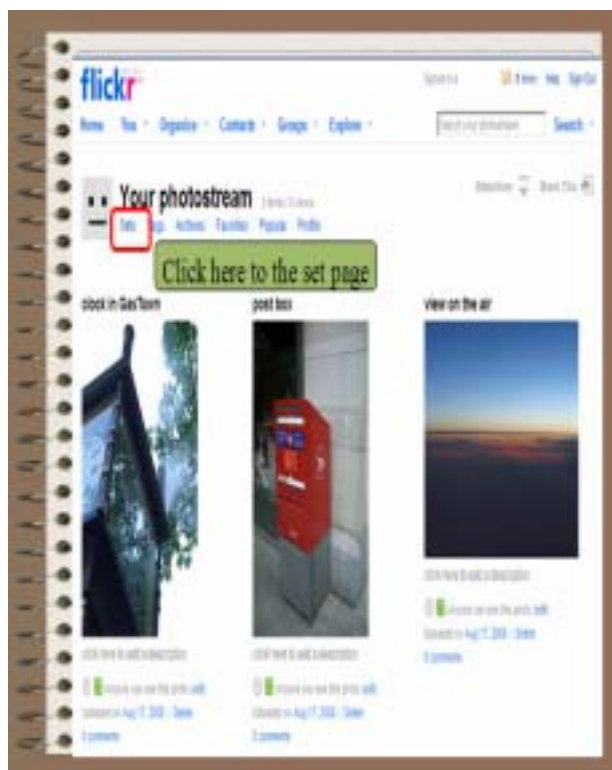


Fig. 22: Create a new photo set (A snapshot from <http://www.flickr.com/>).



Fig. 23: Add photos to the new set (A snapshot from <http://www.flickr.com/>).

- **Implement:** In this step, the Flickr teaching course was taught as part of the introduction to instructional media course. Apart from the teacher, two assistants helped in the teaching of the course so that students' problems could be solved immediately. Moreover, students were allowed to engage in discussions with each other in the class; hence, they could talk about the ways of using this tool, teach each other, or show their photos to others.
- **Evaluation:** The course satisfaction and self-efficacy questionnaires were used after the course in order to evaluate students' learning outcomes. At the end of the questionnaire, we included one open question for students to write down their comments on this course. Items were measured using a four-point Likert scale ranging from highly disagree (1), disagree (2), agree (3), and highly agree (4). The course satisfaction questionnaire had a total of 14 items, and it consisted of three different parts: course unit (5 items), course activity (5 items), and teaching material (4 items). Tables 2 and 3 show some example items of the questionnaires.

Table 2: Example items of the course satisfaction questionnaire.

**Course unit**

- Flickr is useful in self learning.
- Flickr can help me organize information collected on the web.
- Flickr can help me search for information and learn from others.

**Course activity**

- The demonstration is helpful to you when learning Flickr.
- The practice time in class helps you to familiarize yourself with Flickr functions.
- Your questions can be solved immediately in class.

**Teaching material**

- Your appraisal of the PowerPoint design
- Your appraisal of the PowerPoint content

Table 3: Example items of the self-efficacy questionnaire.

**Self-efficacy**

- Sign into Flickr using your own account.
- Give the photo a suitable tag.
- Give more than one tag to your photo.
- Create a new set.
- Add or delete the tag.

**Upload photos with the Flickr Uploadr tool.**

**4 Results**

After the Flickr course was completed, the course satisfaction and self-efficacy questionnaires were used to examine the students' attitudes. On the whole, most students were satisfied with the course ( $M = 3.16, SD = .32$ ), and they also had high self-efficacy in using Flickr ( $M = 3.19, SD = .43$ ) (Table 4). Moreover, the averages of each part were higher than 2.5, which imply that the students were satisfied with this course and that they also have high self-efficacy in using Flickr. As we can see in Table 4, among the three units of the satisfaction questionnaire, students felt less satisfied with the activity part of the course ( $M = 3.08, SD = .57$ ). This could possibly be because some students were not familiar with Flickr. Moreover, although the instructor gave students practice time after each teaching unit, some students felt that this activity time was too short for them to practice the use of Flickr.



Table 4: Results of students' course satisfaction and self-efficacy.

Scale	M	SD
Satisfaction	3.16	.32
Unit	3.53	.50
Activity	3.08	.57
Material	3.20	.48
Self-efficacy	3.19	.43

As we can see in Table 5, both males and females felt satisfied with this course, and they also had efficacy in using Flickr after completing the course. With regard to course satisfaction, there was no significant difference between males and females ( $t = .72, p > .05$ ). This was also true of self-efficacy ( $t = .69, p > .05$ ). Generally speaking, males and females felt satisfied with this course, and most of them were confident about using Flickr after completing the course.

Table 5: Gender issue in course satisfaction and self-efficacy.

Scale	M	SD
Satisfaction		
Male (N = 12)	3.20	.32
Female (N = 12)	3.11	.32
Self-efficacy		
Male (N = 12)	3.25	.49
Female (N = 12)	3.13	.37

## 5 Conclusion

Within the last few years, internet has been one of the important sources of information in our daily life [12-15]. Numerous studies have focus on blogs, wikis, discussion forums, and so on [13-15]. However, digital photographing is becoming more and more accessible every day. Digital cameras and cell phones are also easy enough for even elementary school students to use in their daily life. Through using flickr, users can management thier photos more easily and conveniently. However, flickr is few to be applied in current education.

The aim of this paper was to develop a Flickr course using the ADDIE model. By following the steps of the ADDIE model, we first analyzed students' prior knowledge and then started to design the teaching course step-by-step. Finally, we used the course satisfaction and self-efficacy questionnaires to examine students' learning experiences. The students who enrolled in this course were unfamiliar with Flickr. Using the results of this experiment, we set five basic functions for the course—namely, introduce Flickr, registration and sign in, upload

photos and upload tools, how to use tags, and how to create sets. Upon the completion of the course, we found that most students were satisfied with the course and that they were confident about using Flickr. Moreover, there was no significant difference between male and female students with regard to course satisfaction and self-efficacy. In other words, both male and female students were satisfied with the Flickr course, and most of them were able to use Flickr after completing the course.

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