THE FOUR-PANEL NARRATIVE: A SLICE OF LIFE FROM AN ADAPTED AND EVOLVING ASSIGNMENT

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This design case chronicles a photography assignment starting with its origins in the master's level lab of a communications design program in Taiwan's National Yunlin University of Science and Technology, directed by Jalin Huang. We follow this assignment through its adaptation for a basic media development course taught by Professor Elizabeth Boling in the instructional design master's program at Indiana University, and on to its evolution as a learning exercise and communication device in the instructional design studio sequence of that same program. Along the way, Yichuan Yan, a student from the development course, discusses the experience of receiving and carrying out this assignment in the context of the media development course. Revisions to the assignment for the communications students in Taiwan are also discussed.

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THE PHOTO STORY

A quick search online will reveal, through postings by teachers and practitioners in addition to scholars, that the photo story is a common assignment in classrooms ranging from journalism to human-computer interaction (HCI), and from elementary school classrooms through college programs. It will also be evident that this form of visual exercise is configured with a range of requirements and limitations, and that it is used for widely differing purposes. In journalism education, for example, the photo story is taught as a basic communication device used by professionals for telling a factual story with a human and emotional dimension (Kobre, 2016). In childhood education, by contrast, the photo story may be used as a tool for improving writing (Sullivan-Rubin, 2018); and in design courses it is often used to develop appreciation for form and composition (Barry, 2014). In all its forms, though, two features are constant: a limit is placed on the number of images to be used, and one or more goals for the narrative or thematic content must be articulated in order to frame the assignment. The assignment that we discuss in this design case falls within the genre of the photo story. We choose to write about our own design and re-design of this assignment because the design arose outside the usual course setting and involved some unique requirements, and because its opportunistic, collaborative adaptation into a different studio in a different country and a different mode of instruction place the "common" photo story into a new light.

SEEMAP AND THE FOUR-PANEL NARRATIVE

Before unfolding the story of how this design originated, bifurcated, and evolved, a brief description of its two primary forms will frame that story.

The SEEMAP (Select format, Edit template, Edit image, Make slogan, Assemble story, and Pick title) form was created and iterated by Jalin who was teaching design and maintaining a design research and teaching lab at the National Yunlin University of Science and Technology in Taiwan. This assignment requires four photos arranged in a 4x4 configuration of squares, each with a caption and a visual

marker of the identity of the designer. These photos must be manipulated by digital means to heighten their impact and/or their contribution to the narrative. The story told by these photos is personal to their creator, but accessible to the viewer through the imagery and the captions and the necessary contribution of the viewer in trying to work out what the story is. The process for assembling a set of images is prescribed in detail, although the selection of the images is left up to the student.

The Four-Panel Narrative assignment in the graduate development course taught by Elizabeth is a visual design exercise, like SEEMAP, but its narrative dimension is different. These students will graduate into instructional design practice where direct communication is usually emphasized, but where emotive scene-setting or description of context can be useful. In this version of the assignment few technical specifications are prescribed beyond the limit of four images; even the requirement for captions has been dropped. However, students must ensure there is a perceivable story in their images—that they are communicating some kind of narrative, or change, rather than just displaying four pictures that share a theme.

THE ORIGINAL COMMUNICATIONS ASSIGNMENT (JALIN HUANG)

During regular face-to-face learning, discussion is critical in a design lab like mine. According to each design specialty, every member of the faculty has a lab or studio within the department space. This lab is a base of all research projects and includes discussion and working space for every

graduate student. When I took leave and traveled to Indiana University for a year in July 2018, there were two master's level students participating in this lab. The traditional way of experiencing and improving aesthetic feelings within an actual project was therefore challenged; without face-to-face meetings, how could we share design experiences throughout our discussions? I wondered if, although we have modern technologies today like many sophisticated communication apps, from the learning aspect is it possible to make this kind of communication suitable for experiences like sharing in an apprenticeship working/learning situation? We did hold an existing online group meeting for the regular business of this lab, so I created this four-panel photo story project to address the learning goals that had previously been accomplished face-to-face (see Figure 1). While I was not certain this would work, during the development of the story-telling processes required by the assignment, my students and I found that the outcomes from this method exceeded the original purposes. After six months of using the four-panel narrative activity, the learners reached the original goals of visual practice I had intended and seem to have better communication skills during collaborative design work (see Figure 2). I could tell they had improved their design sense markedly and they are clearly more confident. They can easily apply all fundamental photo editing principles and skills, such as grid, typeface, color, light, contrast, and so on, that are my goals for them (see Figure 3).
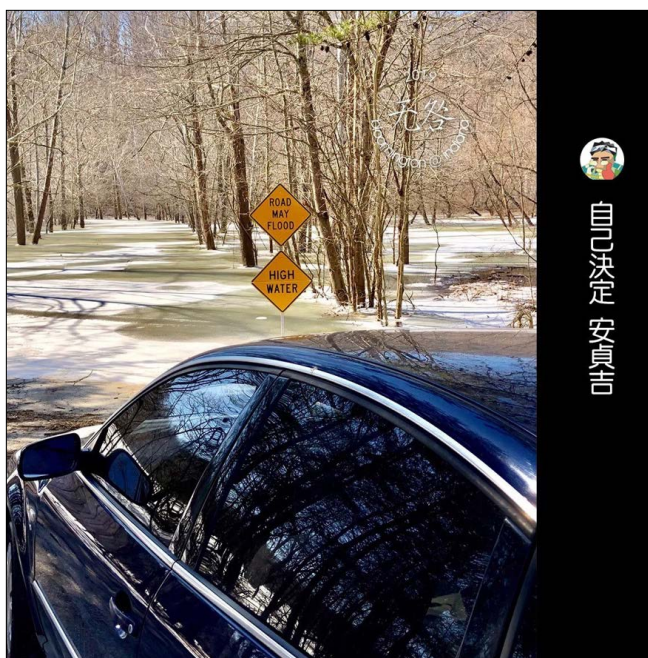
Decision-Making for the Original Assignment

So, why did I choose the four-picture narrative initially? I considered the traditional way of building narrative in

FIGURE 1 & 2. Two narratives created by Jalin. On the left is a sample using large, vertically-set titles and English-language captions supporting the story of a visit to Story, Indiana. The second is a sample of later development in December 2018 with Chinese captions.

FIGURE 3. An example of continuing work in February 2019 using the designer's viewpoint, close cropping of the layout and adjusted lighting, until the image is entirely different from the original or other uses of it.

Asian culture. This is not a direct means of storytelling as I understand to be the Western tradition, but one in which the author tells a story and expects that it may bring the audience into resonance with the author. This form follows an order; the introduction of a theme, an idea following, some development or transition, and a prediction or conclusion. These four steps apply not only to the content, but also to the sequence of a story. This structure connects the storyteller's message to the mental prediction of the audience. In a visual story, neither story nor picture image concedes to one another. It is the balance between both image and its meaning content that creates the story. This format limitation forces the storyteller to condense a story narrative, not including every detail. The format, on the other hand, can provide a space that affords an unlimited imagination for the story. Is any of the expanded message the same direction that we want the audience to go in their perceptions? From the message-sending perspective, the story producer ought to take this responsibility to organize all visible or invisible messages. The purpose of this four-frame story training is to help novice designers to represent their desired information for their target audience within a constrained format. The typical photo communication as I had taught it in the past, especially in higher level classes, critique and discussion are the main activities between the instructor and the learner. Based on previous experiences and personal inclination, the instructor makes suggestions to the learner that will form considerations for their later work. Digital photography and tools used for digital image adjustments, however, afford

much flexibility and possibility for color, lighting, contrast, filtering, as well as cropping images and these have become major subject matter for discussion. Compared to traditional slow turnaround of linear critique and image adjustments, the meaningful message of an image contributing to a story narrative can now be an evolution. In message design for instructional purposes, this fluidity supports both aesthetic and communication demands in teaching photography.

I wanted to situate the practice of design skills within a meaningful project so the original project, telling a story by using photo pictures with simple dialogue, was contextualized as recording the daily life of the design lab, starting in May 2018 at Doulio, Taiwan. With three master's students at the very beginning (one graduated in June 2018, so there were only two left after that), we started an assignment-like practice, a sort of pilot or trial run. They took photos and then added text to convey meanings of the images. The pictures and text were then formatted as a cohesive unit of four images--a story telling the audience what happened in this design lab. Telling a story this way allowed the students to experience multiple design procedures, from observing and thinking to planning and production. By collaborating, the students also share their expertise with each other. And by using sophisticated media tools to communicate, the original project was able to develop into a blended learning mode making it possible for me to teach from afar but benefiting their design production learning more than I had expected.

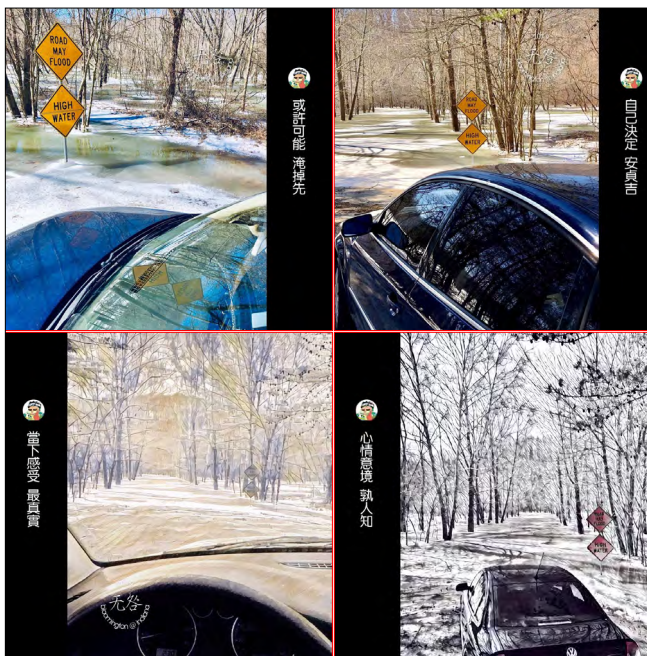**How does the assignment work in practice?**

Everyone in the lab can provide ideas and pictures, but only one person makes the decisions on story script, slogan, and format. All communication takes place in the LINE™ phone app using a single group (see Figure 4). Whenever any visual contributions were posted in the group dialogue, the team would check to see if they needed to make any changes. The team members discussed every single detail in real-time with voice and images through the app. With this working model, the students seemed to be motivated, engaged in sharing the experience, learning design, and completing their projects.

The process of making the photo-story follows six steps that I call "SEEMAP": Select format, Edit template, Edit image, Make slogan, Assemble story, and Pick title.

1. Select the unit format. The reason to select a square unit format is to be able to use and fit images into different platforms and a variety of media easily. The picture fit into the unit could be either landscape or portrait.
2. Edit the base template. The template is structured with a grid system that will be convenient for placing elements easily later. The base elements are title, caption, and dialog person (character). The title frames the story;

FIGURE 4. LINE™ is a popular app that runs on multiple systems and includes many of the functions of a traditional cellular phone (although it also runs on smartphones as well). While LINE commonly functions as a message channel, it is also a working tool for our team project, providing clear communication between all members in the project.

FIGURE 5. A group of four images, description with text added, then combined into a story.

the caption expresses the author's thinking; the dialog person clearly indicates who is talking.

3. Edit the photo as 4x5 landscape or 5x4 portrait layout with light and color adjusted. Cropping is an important part of the work here, since we need to leave enough room for messages and exclude unnecessary visual parts. When the photo quality is not good enough to use directly, the picture can be altered digitally to a graphic-like image.

4. Make a caption (or slogan) for each image. The caption supplements the meanings of the images, as well as offering practice in combining visual attraction and verbal text to convey messages sent by this picture.

5. Assemble four units as a story. Arrange the four units so that they tell the sequences of the story fluently (see Figure 5).

6. Pick a title and overlay it onto each unit. Under this title, the image and caption will be more closely bound together and express the story as a whole. The position of the title can also help the visual balance of the unit, aiding the audience in reading the narrative (see Figure 6).

Every step is not a "one-way" process in the example above. It can go back and forward between the student's work and my opinion or judgement such as "lighter on loofah", "crop more on the right down corner", "blur or crop out the unnecessary object". The way of communication with LINE that repeated adjusting sometimes can be in real-time work. I found the real-time model can be the most efficient way for working and learning. Within this process, though it is hard to explain every single decision each student designer has made in detail, it is possible to observe the creative process of the students. I have seen students make striking improvements in their production skills after carrying out this practice several times. They need less and less refinement of the elements, less time is needed preparing and revising images and generating an accurate layout.

Reflection on teaching with the four-panel photo narrative

Communication

The difficulty of the teamwork is either waiting for opinions from others or receiving too many voices from individuals. For projects to progress smoothly, I therefore designate a script writer for each story. The script writer for each story needs to play the role of product manager at the same time, because the script writer here is a story producer-- knowing what the story needs to present and in what ways to reach the goal. This product manager assigns the work-- image cropping, color adjustment, title positioning--to each team member, communicating with them, synchronously or asynchronously, by creating a group chat room in the LINE™ app. This was intended to make both the production process and communication easy, because the tool provided a clear working format via dialogue. Once members completed their assigned jobs, they posted their work to the LINE group immediately. When the team members needed further discussion to make the changes to their work, they made real-time voice calls via the app.

FIGURE 6. The student work, before (top row) and after (bottom row) the SEEMAP process. Note revisions to every image through cropping, framing, light/dark balance, and order of the photos.

Refine

There is always a need to make adjustments and refinements for the details in this project. Through the refining process, the learners can gradually acquire what I call "design sense," along with using design judgements from more experienced students or the instructor. And although some detail refinement may seem to be very picky, it appears to be a fast and efficient way for the learners to establish self-design discipline and confidence in skills relevant to their career.

Feedback and Pressure

My mantra is, "no deadline, no work." I notice it is always necessary to set a timeline for team work to progress. I found that shortening the timeline and applying suitable pressure toward it was helpful for the whole procedure. After every story was discussed and scheduled in the Line group, a draft was due as soon as possible and everyone had to give feedback within 24 hours. At certain times of day, when all team members were online at the same period, they were able to get the feedback right away. In my experience, running a design team with limited time, it is an important strategy for all members in the team to be recognized by their individual contributions to certain parts of the final product.
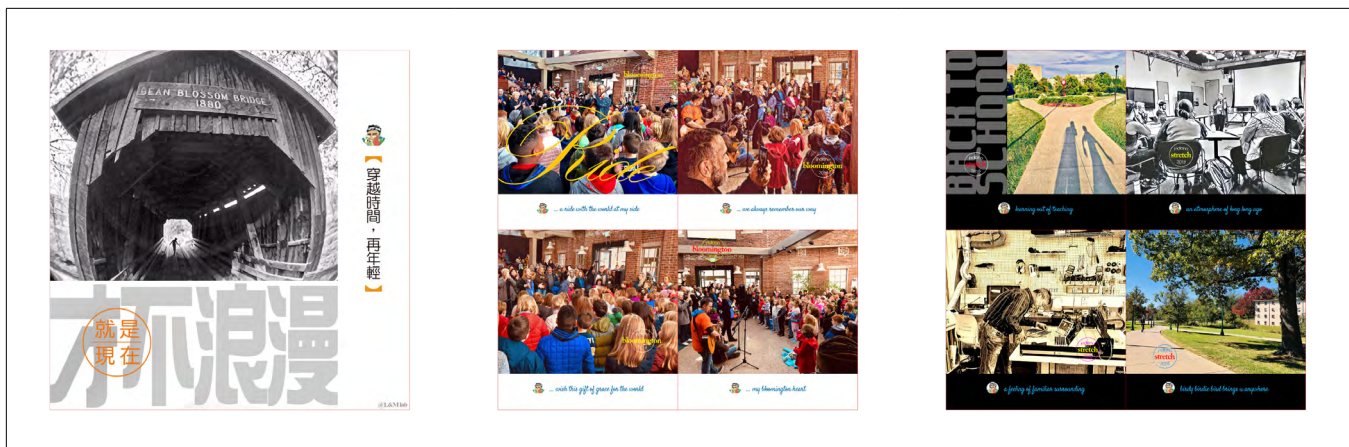
Further Development

What started for me as a quick and simple thought that recording the daily life of a place would make an engaging assignment, has further developed to help the production novice in many sub-areas related to design. The elements in this project--for example, caption, title mark, story script, special effects for images, surrounding feelings of the image--all can make the story attractive or not attractive for an audience, and create the opportunity to practice multiple dimensions of visual communication. This working model

has also further extended to later different series of stories in a similar working model for my own creative work. The Chinese version can be made as a seven-character poem-like dialog such as title: "it is now", then 1st, "I am continuing to direct the best"; 2nd, "through time, young again"; 3rd, "we are going to meet each other in the past"; 4th, "we suddenly stop at the memory moment" (see the first story with the covered bridge in Figure 7).
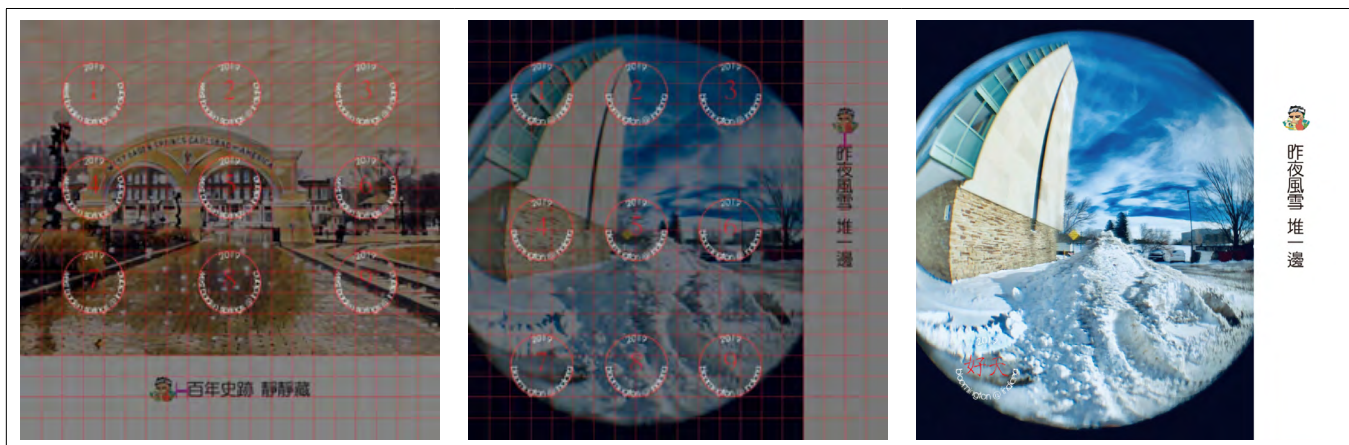
How has it worked for the students and my design lab?

After using the SEEMAP method of design, both students and I feel that we have better communication in collaborative work. I can focus on the creative parts while the students take care of the subsequent production details. During the back-and-forth refining processes, working in an apprenticeship mode, students said that they can capture an "experienced design sense" easily and immediately. Beyond teaching and communicating design in this case, I have also benefited from using the method for my own image-creation work. I did not expect that creative work or artistic image-making could be done this way, or that one might produce artwork so efficiently. Lately, I write the script, take the picture, edit the image, write the slogan, and manage layout all by myself. Thus, I can concentrate on content but not on production. I send all these elements to the working space on LINE. Followed by dialog with the students like slogan: "WR" (white background, slogan on the right side of the image), title: "7 red" (position on 7, red text). The students, now working as assistants, then follow our jointly understood rules to assemble the story (see Figure 8).

Through this working model, I found that I can complete a story almost daily without stress or complex processes. The student assistant, from a learning point of view, can absorb my design thinking or decision patterns and develop by

FIGURE 7. Story sequences developed later by Jalin; the first four images correspond to the dialog discussed above.

FIGURE 8. Landscape/portrait grid guide platform for students to follow, overlaid on photos, and photo without the grid (R).

accretion their personal design sense at the same time. Two students individually told me that the difficult part for them is the script of a story. They believe the slogan part is almost impossible to do by themselves right now. It could be the most critical core of creativity as a whole, but they are glad that they have this opportunity to observe and be involved in the processes, seeing that even I need to revise the wording of a slogan many, many times. The final products let them feel that they are collaborators within a design team, and that their teacher is still an activate designer/artist. From a traditional apprenticeship point of view, it seems we have found a possible solution for design learning in a modern way, which this working model has extended to experiences sharing with a new tool, new technology, and a new way of instructional design (see Figure 9).

As a practitioner and an instructor in the design field, transforming traditional learning methods to the modern educational system is always a challenge. Not only are the tools different from the past, but the learning channels are different--while the learning content of aesthetic and principle-based thinking remain much the same. When I consider

the benefits for learning outcomes of apprenticeship, I think this online apprenticeship might be able to improve the current instructional system for design. Although the results would obviously vary depending on different individuals, this experiment makes it seem that I have discovered a learning supplement path which can help my students assimilate some experiences with designing during the unconventional process of story creation. For me and them, the consequence of four-picture trainings has gone far beyond the story telling.

ADAPTATION TO A BASIC DEVELOPMENT COURSE IN INSTRUCTIONAL DESIGN (ELIZABETH BOLING)

Photo narratives or panel-based story telling had not been unknown to me as design assignment, but I had not included such an assignment in a course for several years—and had included it as only one option among several when I did. At the time Dr. Huang arrived to take a position as visiting scholar in the program, I was revising our basic introductory

FIGURE 9. Excerpts of the active and visually-oriented dialog during work in the LINE app. What we can see in these processes are almost the same function of real-time communication which benefit to both sides of instruction and learning to time and distance limited

course that focuses on tools and design in the context of instructional systems. The course had been newly positioned as the first in a studio sequence during our recent revision of the on-campus MSEd program, so I was open to new ideas regarding the assignments I might include.

As Dr. Huang showed me the work his students were producing, I noted that his students were undergraduates and his program focused strongly on visual and product design, differences from the masters level instructional design program he had graduated from (ours) and the one in which I was still teaching. However, I also noted that his emphasis on the very restricted format (four images only), on photo selection, cropping and other manipulations were very much in line with a current turn in presentations and design communications toward photos versus line art or other forms of illustration.

Why did we embark on adapting the assignment into my class in the US?

Looking forward to the whole studio sequence, which follows the course discussed here, and in which students would present and explain their design contexts and problem spaces several times, I decided fairly quickly, together with Dr. Huang, to make a version of this photo story assignment mandatory in the current class. My thinking was that students would need the ability to create, manipulate and arrange photos as evocative components in their presentations more than once during the upcoming semesters of their programs. While they selected the rest of their projects from a list of possibilities depending on how they envisioned themselves working in the future, I presumed this one would serve all of them well in the near and the foreseeable future.

As I understood Dr. Huang's use of this assignment, the personal perspective and open-ended, often humorous, interpretation invited from viewers were central to it. My own course goals, as stated in the syllabus, are:

- Develop an understanding of key issues and concepts relevant to the design and production process, including form versus function, basic graphic design principles and guidelines, and interface design principles.
- Independently learn to use digital tools useful for development and production.
- Apply concepts and tools towards development of media resources to a finished, usable level of production value.

Within these, as relates to visual design, my goals focus primarily on clear, direct instructional communications using media.

What did the adaptation look like?

I adapted the assignment, keeping it evocative rather than literal; however, it was framed as the opener for an imaginary presentation in which a design problem statement was being introduced. This was consistent with the way the students would be using images when they were working on actual, not imagined, projects. I might note that all the projects in this course, where the focus was strong on self-directed learning for proficiency with tools and media development, were identified by the students and remained tied to context but not to clients. They were expected to discuss those contexts for all projects, this one included. A key difference in this adaptation from the original assignment was that I did not set the theme of the narrative, and this proved to be a distinctly complicating factor for the students.

I decided further to simplify the requirements for this assignment, specifically to retain the use of a caption for each image and for visual manipulation of their photos, but not to require the logo component that Jalin uses as an identity element in his own and in students' photos. My students, with only a few exceptions, do not bring a strong visual design background to the program, and I estimated that identity design would be a distracting challenge for

them, not likely central to their future practice, and not really compatible with the use I expected them to make of photo stories in upcoming semesters.

Co-teaching the assignment

I introduced this assignment along with three others required for the semester. According to the structure of the class, all four are due at the end of the term, with a demonstration of progress required bi-weekly via individual design logs the students keep in the university's course management system. They are responsible for creating a learning plan, choosing their optional projects (e.g., 3-minute direction instruction video, short educational podcast, instructional pamphlet, among other choices), anticipating tools and skills they will need to complete those projects, and discussing the means they will use to acquire both. As motivated graduate students, they jumped in quickly to file their learning plans, but it was clear to me right away that they were concerned about the mandatory photo narrative assignment. I walked the studio classroom most of every session, consulting with the students while they worked; I heard and saw that the photo project was puzzling to them, although they were trying to understand what they should do.

Initially, most of the students conceived of a story and sought opportunities to take pictures supporting it. I considered this to be predictable because, for most of them, the verbal mode had been requested of them and rewarded in them throughout their educational experiences. It was their comfort zone, whereas simply roaming the campus with a camera and drawing a story out of the photos they took was not. Using the terms "narrative" and "story" for this assignment may also have led to an initial emphasis on literal communication, or explanation, of a plot via the use of the required captions. The term "photo montage" comes to mind as a possible substitute because it implies simultaneity versus linearity; even if this must be explained as a media term, it might short-circuit the assumption that the photos literally illustrate a story. However, I anticipate that examples from previous students will make the most difference to future students, and these will be available--not just those produced in this term, but those used by students ahead of them in the program whose presentations new students will witness.

Some students did try the just-take-photos approach to obtaining photos. Others looked through images they had taken previously to see what might work for them, but most sought specific photos to support a story, or a theme, they had in mind. Acquiring images occupied their attention to the exclusion of other requirements at first, but once they had a candidate set of photos, we could discuss how they might use image manipulation, cropping, adjustments of light and dark, variation in saturation and tone, to heighten

impact and focus visual attention. While many of them struggled with writing captions that would not simply explain the images, once they got started manipulating the images, they showed aptitude for and interest in this aspect of the project (see Figure 10).

As a former student of mine and a guest in the course, Jalin stood back initially as the project was introduced to the students. Given the structure of the course—students deciding what to work on and in what order (or in parallel), it was not always possible for him to tell when individual students were working with their images. As they got further into the assignment, however, he took to walking the studio as I was doing and making himself available for consultation. Partway through the term he also spent a good part of a studio session showing examples of his own narratives, discussing them, and asking the students to take photos with his phone so that he could create a new narrative. Later still, he brought that narrative back and showed it to the class. He continued

FIGURE 10. Student "M" went out and staged photos to support her theme around recycling. After multiple revisions, including the idea that she might augment her titles with a smiling/frowning cartoon bottle, she settled on short statements representing thoughts of the bottle. She spent a lot of time altering the images to place the bottle as "main character" in each panel, then highlight the bottle and change the mood of each panel through color.

his own teaching process with students in Taiwan and brought those images in regularly, sharing them with me and the students he was consulting individually.
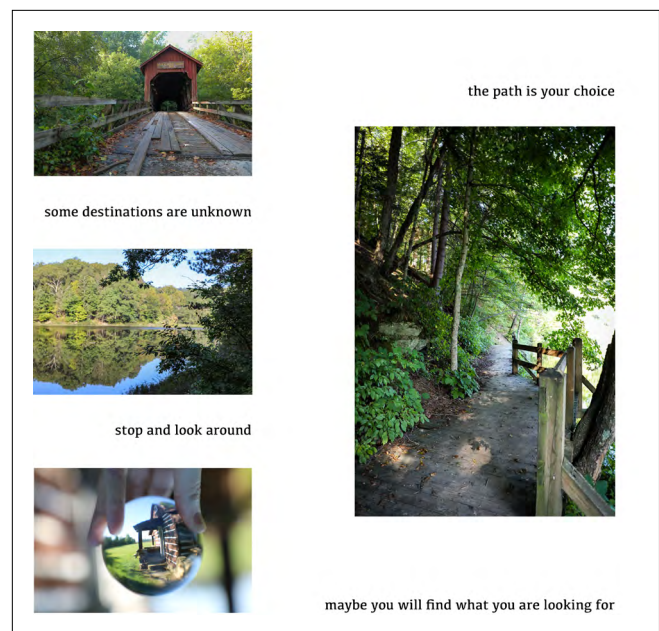
Jalin's ability to communicate in Chinese with several members of the class, and their ability to read the captions on exemplar photo stories from his students, appeared to facilitate this assignment for those students. I could tell that discussion of their ideas and explanations about the sample images proceeded more fluently in Chinese than they did in English. In fact, my discussion with first- and second-language speakers of English, while generally fluent, were hampered by my inability to read the Chinese captions on the exemplars from Jalin's students.

The use of humor, and what I took to be puns, also rendered the captions difficult for Jalin to translate for me. In this situation, I found myself independently developing guidance around captions that emphasized brevity and suggestion rather than direct explanation of a plot. In fact, my advice to students that they imagine themselves pitching a design to clients and opening with an evocative photo narrative was drawn from my reason for including the assignment in the class, but had not been part of my original presentation of the project to them.

My assumption that first term students could envision the circumstances in which they might use such a photo story, two semesters down the road, was inaccurate. The progression of their studio courses was clear in my mind, less so in theirs—and half of them were not even majors in the program; they were not actually destined to participate in those future courses. Offered some possibilities, always rooted in the students' own initial thoughts, several of them were able to envision a hypothetical future use for the photo narrative. A set of possible scenarios from which they might choose could help in the future, either as an actual set of choices, or as a model for how the students might imagine scenarios of their own.

While it was clear to me that all of Jalin's exemplar layouts were 2x2 square, I did not think to include this in the brief for the project. Because it was not there, the students used the size and layout of their images as part of their stories. This was a positive factor in the implementation in that it afforded the use of layout and image size as a communication tool, but problematic in that it appeared to re-enforce the linear narrative impulse, changed the parameters of the framing required, and clearly resulted in composition problems students would not have needed to solve otherwise (see Figure 11).

Every student was able to compose a photo narrative by the end of term, some more and some less explicit and linear in conception. They were more successful exploring and applying visual adjustments to their images for emotive effect than they were at achieving an evocative, implied narrative.

FIGURE 11. Student "P" proactively used the aspect ratio and the size of photos as elements in her narrative, discussing her desire to communicate the "unknown path to the future" via the vertically-cropped image on the left. This led to issues with text placement which she was able to resolve by attenuating the visual space occupied by the narrative.

The studio sequence progresses, however, so developing this skill may continue for those proceeding into it.

PHOTO STORY PROJECT—LEARNER EXPERIENCE (YICHUAN YAN)

As a first-year Ph.D. student in the first design class, feeling excited and anxious about the photo story project at the same time was normal. Learning something new was great, but without any prior experiences in design I found it challenging. When the project was announced in the first week, a collage of photos people shared on social media was my first impression. The format was quite simple, however, I suspected that the idea may not be easy to get. The elements of the project mainly consisted of four photos with a brief description for each photo. The purpose of the project was to deliver some sort of clear message that most audiences would agree on.

What was it like to experience this assignment?

There was an example of a photo story provided, but most of the learners in class could not grasp the idea of the project in the beginning. To construct the project idea, learners needed to get further information or different ways of explanation to help themselves come up with their own design ideas. Other than the format of the project, the first clue the instructor, Professor Boling, provided was that everyone should have a topic in mind to direct his/her design. The second clue the

instructor emphasized was there should be someone in the photo to deliver the message. That was the basic instruction the learners got in the class.

In addition to Professor Boling, the other resource the learners could reach was the co-instructor, Dr. Huang. The technique Dr. Huang pointed out was to take as many photos as possible. He was so experienced that he could just take photos and make stories out of them. Therefore, people started to follow the instructions and take photos. It was evident that the ways both instructors approached the photo story project were on two different ends of a line—work from an idea at the start, or just begin taking photographs. As students, we didn't know if both ways were going to intersect, or which way was going to get the learners there. Learning by doing and by trial and error were commonly observed among my peers in the class.

On reflection, I believe that I began with the idea first, and the first idea that came to my mind was Health Concerns in the Higher Education Workplace. This was based on my daily observations of the people working around here. The most common behavior among the people here was that they spend most of their time sitting somewhere working. Most of them also carried a bottle of drink and sometimes food with them, no matter whether they were in their office, in the classroom, in the library, or in the hallway. Besides, there was always at least one window in the spaces that I observed. My idea was to capture something in common among those people, and that was where my draft photos came from. I did not make much progress at first except for taking more photos—so perhaps I followed both instructors' advice at the same time.

What was it like to experience co-teaching?

To make sure everyone was on the right track, both instructors were constantly answering the learners' questions. Besides this, biweekly peer reviews in the form of an online discussion thread, were built into the course. Learners would take the feedback, partially or entirely, from their peers and make changes accordingly. And in class, once the learners got an "okay" or positive response from the instructors, they moved on. As time went by, Dr. Huang kept creating examples and showing them, and all of us were taking more and more photos. Through this ample exposure to the examples, and particularly the continuous conversation I was able to seek from Dr. Huang in Chinese, I successfully made the breakthrough to an understanding. That was a turning point which I believe set me apart from other learners--in fact, I ended up with two project ideas.

My photo projects

After retaking some photos, I made the first story, "Tea, Coffee, Coke, or Me?" (see Figure 12). By this I meant that other people were choosing beverages to keep their energy

FIGURE 12. The original idea and final product for Yichuan's first photo story, showing evolution in the visual treatment of the photos and the captions.

high, but I felt that sleep was a healthier choice. Later, I got feedback from my peers and changed the wording to "Tea, Coffee, Coke, or Sleep?" This expressed more clearly that people want something to keep them awake, but what they need is sleep, a better way to present Health Concerns of Higher Education Workplace than my original idea. Once I had completed this narrative, the next day another idea just came to my mind seemingly out of nowhere. As I think about it deeply, I found it may be because I was exposed to many examples from Dr. Huang. It's an internalization

process, and I could finally get some ideas out of the ample examples. I think that may be one of the reasons when designers get more experienced, they can get the ideas in a shorter period, even feeling like just a second. So, I recycled some of the photos I had taken earlier and added two new photos into the second story (see Figure 13). "A building of Dream, A Room of Passion, A Cell of Focus, and A Way Out to the Future." was the original wording. After consulting with Professor Boling, I simplified into "Dream, Passion, Focus, Future," because the place words were self-explanatory in the photos.

My learning

What I learned from the process was mainly the logic or ideology behind the story. Specifically, how I can plot a story with four images. I don't know all the possible ways to do so, but I have observed two techniques from the instructors' examples and implemented both in my projects. I would call the first one "Contrast" and the other "Zoom In." I would like to articulate the ideas backward. The fourth photo was the goal or outcome, so I made the plots based on that. Therefore, photo four is the most important message the author would like to deliver, and we may call it the goal or outcome photo. The last photo alone would not be powerful enough to arouse the audience, however, so we need to create a plot, or narrative, for that. That is why we need the other three photos.

In my first project, the topic is "Health Concerns in Higher Education Workplace," and I applied the "Contrast" technique to articulate the idea. People need more sleep to solve problems, but they often choose to do the opposite, which is to drink tea, coffee, or coke to keep them awake. Therefore, the conflict between the need of sleep and the need of being awake creates the contrast. In addition, the first three photos all represent caffeine, but in different formats. When the same idea is presented three times in different formats, it helps create the contrast. In addition, I purposefully had three models of three different age ranges to go with three different drinks. I was hoping my audience from different age groups would all agree with my message.
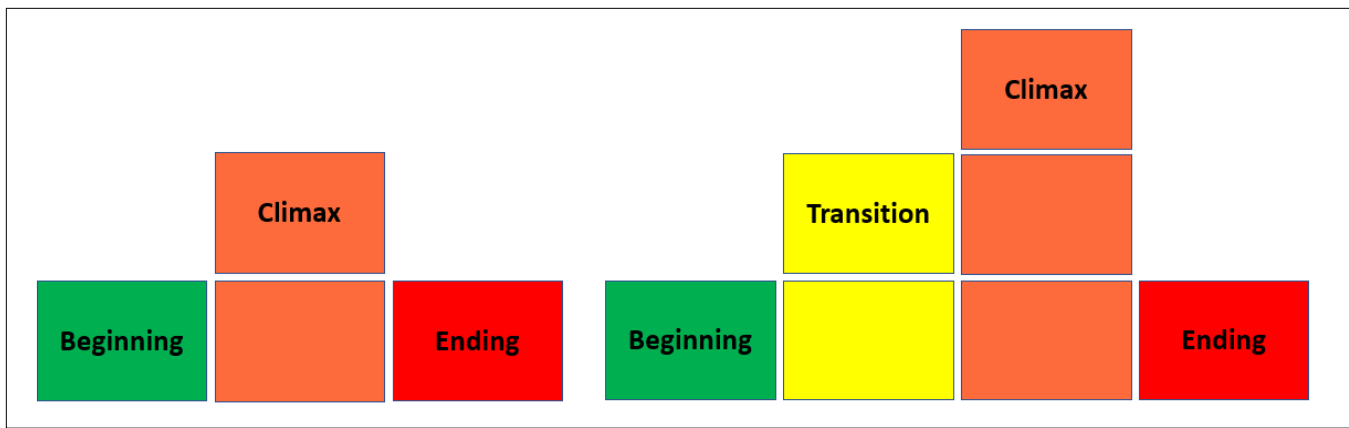
As for the "Zoom In" technique, I applied this technique in my second project. The topic was "People find their own way out through education." Therefore, photo four occupied half of the space in the whole story, and it's a long hallway to the exits at the far end. I used the time and space elements in the first three photos to express the topic. From a building, a room, a cell, to a way, there is a "zoom in" effect. Also, to get education, people have dreams first, meet others with the same passion, locate their own focus, and find their own way out. That's the process, and there is a time sequence embedded.

From the experiences, I realized why the photo story project must have photos and texts to go together. When photos

FIGURE 13. The original idea and final product for Yichuan's second photo story, showing evolution in the visual treatment of the photos and the captions.

stay alone, different audiences may have different explanations, and, therefore, there may be many possibilities to explain the message the author would like to deliver. The author needs to provide more information to let the audience figure out what the message is. That's where the texts, even just a word, in each photo come into play. It guides the audience to think in a certain way. Thus, the texts bridge the understanding of the audience and the message from the author in the photos.

Climax

Climax

Transition

Beginning | **Ending**

Beginning | | **Ending**

FIGURE 14. Yichuan's visualizations of three-photo story vs four-photo story.

GUIDING QUESTION	DESCRIPTION
What is the content of the images?	This is literal description. What are the objects in the image? What are they like—size, color, condition? If there are people, what are their characteristics?
What are the relationships?	What are the positions of objects in relation to each other? What are the positions of people in relation to objects and each other?
Are there changes?	Does the content change from one image to another? How? Do the relationships change from one image to another? How?
Are there similarities?	Are there unchanging elements or characteristics of objects and people from one image to another? What are they?
What is the emotive content of the images?	Are there people showing facial expressions? What do those convey emotionally? Are there indicators of mood; gestures, colors, lights and darks?
Do there seem to be symbolic meanings?	Are there symbols or symbolic gestures in the images? What are they and where do they appear?
What kind of analogies might be drawn or narrative be told about the images?	Can I name the situation(s) depicted here, or tell a story about these images?
What theme may be represented here?	What theme would be applicable to the analogy or narrative?

TABLE 1. The Photo Narrative Worksheet With Guiding Questions.

Note. The worksheet included a series of questions focused on the formal properties of images and linking those to communicative intentions.

Why do we have four photos in the story? There are two factors, the story and the images, I can think of. What we would like to achieve here is to use the minimum units of a story and images to convey the message. To make a story, we need, at least, a photo for beginning, a photo for climax, and a photo for ending. So, we need at least three photos to go with the story. When I visualize a three-photo story, it looks like this in my mind (see Figure 14). The difference between each stage of the story in the visualization is based on an ordinal scale, which means there is a difference, but no absolute value to indicate how great it is. Usually, the greater difference between climax and ending, I feel that the better a story could be. In the three-photo story model, I may feel something, but the difference is not great enough for me because it escalates once only. Therefore, if I can add one more element, transition, to a story, I feel the

story is more complete. As you can see in the visualization, it escalates twice to reach climax from the beginning. Thus, there is a greater difference between climax and ending in the four-photo story model. As a bonus, it is easier to arrange four photos than three photos.

Further development of this design (Jalin, Elizabeth, and Yichuan)

At the time of this writing, Elizabeth has taken two additional opportunities for the studio students (majors in the program) to grapple with photo narrative in the context of instructional design. In the first, I used one of the methods practice sessions that I hold in the studio class to have students produce a photo narrative, bring it to class, and ask others to interpret the main theme or concept behind it. To eliminate the struggle of deciding on a theme, I assigned one to each
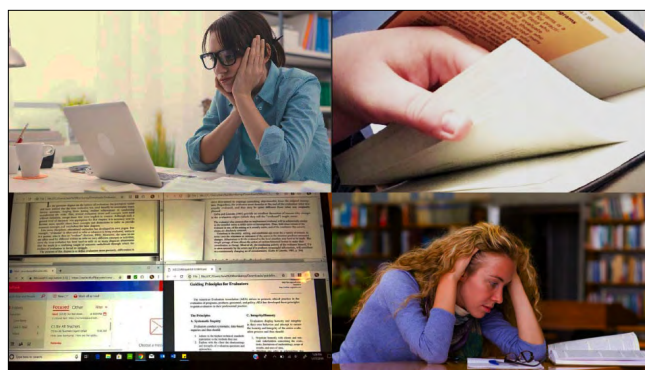
of them individually (e.g., "barriers to learning," "learning anxiety"), choosing themes with some emotional valence and enough breadth to allow both interpretation and options for them to create images. I removed the captions requirement, hoping to move them away from the impulse to explain the images through text, and required a 2x2 layout for the four images. They brought their narratives to class where they traded them off to others and then used a worksheet that I created to guide them through their interpretation (see Table 1). They had received the worksheet in advance; my thought was to help them create their narratives with the eventual viewers of them in mind, and they did have success picking up the tenor of each other's stories during this exercise.

At the end of the term, these same students included a photo narrative in their presentations of proposals for a year-long capstone project upcoming (see Figure 16).

CONCLUSION

We have presented a single design, born of necessity, adapted fortuitously into a different context, experienced as both puzzling and revealing by students, used by instructors providing more and less direct guidance, and still morphing in response to our needs as well as the performance of our students. The photo narrative assignment has provided Jalin with a more effective and robust learning vehicle than he initially hoped for, and the Elizabeth with an exploratory thread to run through multiple semesters of studio, helping develop and illuminate students' ability to communicate visually in evocative ways. In the first instance the design as used in Taiwan is refined to a point at which it will function as-is for some time. In the other, this is very much an evolving design in the US studio program, at the time of writing just heading into its second full cycle of use in the basic media course. While Yichuan discusses insights achieved during the version of the project he experienced—a positive indicator for continuing with it—unnecessary struggle remains part of

FIGURE 16. Student "B" demonstrates a grasp of evocative, suggestive storytelling versus linear, explicit explaining through images.

that experience alongside the necessary struggle of learning a new mode of communication. At this point, some expectation exists that building a collection of prior examples will be helpful, as they proved to be during Jalin's consultation to US students during his time as a visiting scholar. As with many designs, the story of this one is not over yet.

ACKNOWLEDGEMENTS

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