A Case Study of an Andragogical Model in Design Education: Experiments in interactive teaching and

learning in graphic design pedagogy

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Abstract

The purpose of this study is to seek an interactive pedagogical model in teaching graphic design in higher education. Malcolm Shepherd Knowles, an American adult educator, adopted the theory of 'Andragogy' which focused on self-directed learning theories. This author applied the 'Andragogical Model' to upper division design studios and addresses effective instructions and tips through case studies. In terms of the digital academic environment favored by Generation Y, educators in graphic design fields have been faced with difficulties balancing practical and theoretical disciplines for successful academic achievement. The challenge for educators caused by the digital culture is convincing students that professional jobs mostly require students to achieve multiple creative abilities. This phenomenon demonstrates the problems of giving students precise direction for academic achievement. Thus, this paper brings up questions about how we should structure design education in a digital environment, and how we define boundaries between pedagogical and andragogical models.

Keywords

Design Education, Pedagogy, Andragogy

What to teach, and how do we teach it?

For the past 10 years, mass communication has rapidly developed in various media both online and offline. As consumers demand more of a variety of mass media, new methods in visual communication have become more technical thus creating new challenges in graphic design education. (Samara, 2007) In comparison with earlier studio practices without computer aids, educators are currently confronted with enormous concerns regarding teaching strategies. Assignments need to be intensive with both practical application and theory. Also, due to lack of time and space in the educational environment, graphic design studios often require students/employees to expand their knowledge and skills outside classroom/studio as well. In addition, it often appears a difficult matter to deliver all disciplines of traditional design practices and add the challenge of new computer technology in computer graphics. Professional designer jobs require various qualifications, yet students strive to build their portfolio to show a number of computation skills instead of visual quality and uniqueness of design. "The challenge for educators today is to help designers become the masters, not the slaves, of technology." (Lupton, 2006) Students are looking for professional careers in their future, but students should be aware of important factors in professionalism relating to digital technologies. What is a good direction and strategy for educators? Should we instruct more in teaching computer techniques or advise students to build sophisticated portfolios in the way of traditional graphic design?

Teaching digital to Generation "Y"

Generation "Y", also known as the Millennial Generation, Generation Next, or Net Generation defined by the age group between twenty (20) and twenty-six (26), has grown up with digital media from their earlier education. They are used to obtaining necessary or useful information through online and mobile applications. This digital environment refers to the new online culture such as "instant", "virtual", or "multi-media" and it often reflects their attitudes and manners which can appear as a lack of craftsmanship in studio practices. Because they have grown up relying on their parents for information, they are not independent in learning responsibility. (Alsop, 2008) The problem is perceived as a major detriment to achieving academic goals when following traditional pedagogical strategies. Their final submissions are often observed with mistakes and no attention is paid to detailed visual descriptions. This has caused Generation "Y" to misunderstand the definition of graphic design regarding computer simulation and its effects in design quality. They start and end creativity from "Google" to "Adobe" software and many educators view this matter as a main learning challenge. Computer technology has replaced traditional design tools such as rulers, pencils, colors, papers, etc., and students often mistake the magic of computer graphic tools as creativity. This phenomenon has many educators confused about academic goals, a lack of interaction between practical and theoretical disciplines in pedagogy and difficulties balancing the two. There are so many rules and various methods students should learn to achieve successful outcomes, but following traditional instructions is becoming an unproductive education problem. (Exley, 2008) It is important that graphic design educators understand Generation "Y" from different perspectives. Unless we seek solutions for this challenge, it will be difficult to educate this generation of students, let alone the generation that follows.

Andragogy in design disciplines

Pedagogy describes a traditional approach of teaching based on teacher-directed learning theories, but 'andragogy' is based upong self-directed learning theories. (Knowles, 1970) Malcolm Knowles addressed various andragogical models for helping adults learn. In contrast to andragogical methods, pedagogical methods usually appear in earlier foundation level courses, especially design fundamental studios. The structure of instruction is very strict and organized with various activities to gain basic knowledge and experience of required artistic capability. As a student moves into upper division levels, disciplines require more subjective and critical thinking in concept development. This means design outcomes should be more practical and of professional quality rather than how to create design. An andragogical model should be considered more in advanced levels, but it is necessary to apply it in all different levels for Generation "Y" in terms of lack of responsibility in their learning. As the main objectives of design education are to have diverse experiments and conduct research in many ways, an andragogical model can help them seek various methods in problem-solving. Applying these two different models in art and design education is also effective in terms of critical or conceptual tasks in each discipline. The reasons are: 1) Studio classes differ from other lecture classes in terms of both passive and active activities, working individually and in groups; learning design subjects requires more activities such as brainstorming, critique, communication, design management, etc.; 2) Students are isolated when using computers despite their perception that the computer is the whole structure of the learning process. The computer environment in graphic design field is accurate, but it is also a major problem in learning and teaching design education (Locker, 2008). In this

case, many educators in art and design studio classes are often struggling to supervise or develop quality demanded at the higher educational level; and 3) Students are faced with difficulties with experimental approaches based on design fundamental theories in spite of their artistic talent or work experiences. For instance, some students in intermediate or advanced studio classes often have various problems due to aesthetic/functional knowledge in design fundamentals. These students need to pay more attention to teacher-directed learning in order to practice various design examples instead of continuing unproductive quality in their design before they follow andragogical direction. Thus, teaching methods should be distinguished by different diagnosis from each student and applying either one of them or both simultaneously.

Teaching strategies in a case study

In order to seek constructive teaching methods between pedagogical and andragogical model, this author has observed Generation "Y" applying different pedagogies in graphic design studios through two (2) semesters. In order to compare different responses from students between pedagogy and andragogy, this author applied either one of them or both properly in terms of lectures, assessments, assignments, design process, critique, individual work and group work, etc. Information from examined classes follows:

Table 1. A class information

			Enrollment		
Class	Assignments	Spring 2009	Fall 2009		
Art 356 (Graphic Design II) Junior level	 Sign and symbol Sequential design Information design Advertising design 	N/A	24		
Art 358 (Typography) Junior level	 Typographic expression (Static & Kinetic) Typographic form and symbol Typographic composition Kinetic typography 	20	22		
Art 456 (Graphic Design III) Senior level	 Corporate Identity Stationery Promotion Design Signage and wayfinding system System Manual 	30	19		

Table 2 introduces different pedagogical and andragogical models in terms of each task of the design process. The indicated symbols represent in which task each method has been applied and more effective in learning process. Instructions between students and teacher have been adjusted in terms of additional handouts per each assignment and process. The pedagogical method is defined by following instructor's guidelines, but self-direction is used in the andragogical model. Pedagogical model also refers to developing idea in a group, but andragogical method has been used for self-study in creative activities.

Table 2. Assumptions of proper teaching methods between pedagogy and andragogy

Task Teaching methods

	Pedagogical	Andragogical
Project Introduction	0	Х
Research	Х	0
Brainstorming	Х	0
Idea Sketches	Х	0
Mid-Critique	0	0
Project Evaluation	0	0
Revisions	Х	0
Final Presentation	0	0

Project Introduction

Project introduction is the first thing to define the each assignment's goal and it is composed of three different components including additional handouts: lectures, syllabus and checklist of design process (Appendix A). Because students are required to pay attention to understand problems and guidelines, the teaching method should be based on 100% pedagogical methods. Table 3 shows the main consideration, methods and strategies in the whole design process.

Table 3. Tips for the project introduction methods

Task	Teaching and learning methods			
Task	Pedagogical	Andragogical		
Project Introduction	 Require full attention to the lecture and discussion Analyze design examples Clarify objectives and guidelines Hand out repeating information Explain evaluation criteria 	N/A		

Table 3 addresses tips for teaching methods in project introduction. It is necessary to push students into the subject-centered of the learning orientation. (Knowles, 1992) Turning off the computer and any mobile devices is mandatory during lectures. The lecture provides exact subject matter, objectives and design process requirements. It also brings out group discussions for understanding which design works or not. All design examples are from various student work related to concept development, design methodology and media exploration. This lecture is important to help students understand their role, and understand the importance of class participation. Clarifying objectives and analyzing examples of the successful designs demonstrates three things: 1) what they already know or do not know, 2) what they need to learn and achieve, and 3) what they can challenge and experiment with in new approaches. All instructions are handed out in the beginning of the new assignment, including evaluation criteria and the instructor should check their progress through individual meetings.

Design process

The design process is composed of four (4) different stages to develop design concepts and ideas: research, brainstorming/analysis, idea sketches, and mid-critique. There are two different models for each assignment. Figure 1 addresses distinctive methods

between academic and practical research type. The diamond method from the academic model indicates more time consumption than other stages, but the pyramid method follows the sequential problem-solving process to narrow down the final solution from the heavy amount in the research stage. Both are productive learning models to achieve the goal of successful outcomes in design process, but require a critical balance between pedagogy and andragogical teaching methods.

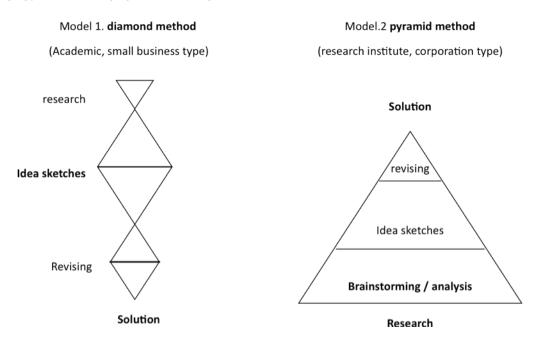


Figure 1. Structure of design process

Research & Brainstorming

In design research, andragogical direction should be 100%. This means students are responsible to seek the direction of study goals and design achievement. Research often requires unlimited resources and references to contribute a unique concept and creative ideas in visual communication.(Figure 2)



Figure 2. Research towards andragogical direction

Knowles (1977) wrote that the adult learner brings a greater volume and quality of experience and it becomes the source of self-identity. Therefore, enhanced and intensive research based on an andragogical model brings out good quality and successful outcomes in both aesthetical and functional aspects of design. In addition, research direction is determined by design methods. Students are always encouraged to invent their design method in order to contribute their concept and narratives in

communication methods. This resolved the major problem when students begin with unproductive research with a few image collections from an online "Google" search. For example, in an upper level typography studio class, an andragogical model was used for a "typographic symbol" project. The goal of this project was to create a new typeface, but compose letters as type symbols. In order to lead students into self-centered thinking, each student submits a few keywords and then picks one randomly. We often observed students prefer to repeat same or similar concept and idea through different projects. In this research task, andragogical direction changes students' learning methods for understanding self-direction in individual and group work instead of following the teacher's direction.

Table 4. Tips for the research methods

Task	Teaching and learning methods			
Task	Pedagogical	Andragogical		
Research	N/A	 Avoid "Google" research only Apply research methods from design methods 		

Idea Development with Sketches

Many educators have discussed the problems with idea sketches. A major number of design schools emphasize the importance of idea sketches for the creative quality and uniqueness of idea in disciplines. Instructors address all guidelines and processes of idea development in syllabi but students consider it being satisfied with minimum work. For instance, this author observed the different responses from students between pedagogical and andragogical direction.

Table 5. The learners' responses from pedagogy vs andragogy in idea development

	The Learners responses from Pedagogy vs Andragogy in idea development				
	Pedagogical Andragogical				
Quality	Considering only visual attractions in self-satisfaction	Going back and forth with visual research for audiences			
Quantity	Following exact guidelines	Applying design methodology			
Depth	Lack of Details	Profusion of ideas and solid finals			

Table 5 shows the difference between pedagogy and andragogy on how students perceive the learning process in terms of different perspectives. In the task of conducting visual concept development, an andragogical model is more effective in achieving the goal of final design quality in both aesthetical and functional aspects. Therefore, students should not be limited to the number of sketches, but use any design method to expand their idea and creativity.

Critique & Project Evaluation

Critique and evaluation requires both pedagogy and andragogy in the various graphic design disciplines. Communication between teacher and student needs interactive methods: both written and verbal. Students are encouraged to participate on the final group critique. In order to have dynamic and productive criticism, there are pedagogical requirements in this process, but also andragogical encouragement by each student in class. Table 6 addresses an example of instruction for the teacher and students in terms of different directions between pedagogical and andragogical approaches. Andragogical direction should come after the pedagogical model. It gives students better direction to be motivated towards professionalism: perceiving lack of design ability and learning from comparisons, and achieving the goal of creativity to prove portfolio quality.

Table 6. Instructions for critique and evaluation

	Instructions for critique and evaluation			
	Pedagogical (Teacher-Directed)	Andragogical (Self-Directed)		
Presentation methods	Teacher : Should provide guidelines and a list of design contents which students will follow.	Students: Use additional resources and references to explain their concept and idea clearly and interactively with others.		
Participation	Teacher: Should ask each student questions to bring out their opinions because students are afraid of saying something wrong.	Students: Are motivated with sharing ideas and productive discussion for clients and designers to reach better solutions in self-direction.		
Evaluation methods	Teacher: Should analyze design problems from each student's outcomes because students need to know exactly each problem in detail. (Figure 3) (Appendix B).	Students: Requires analyzing their own problems from the group critique and attempt to communicate with teachers to fully understand their directions.		
Revising	Teacher: Give another chance to give an extra point and chances to see their improvement by teacher's instruction. In addition, it is effective if teacher provides them a demo and examples from a similar case study individually.	Students: Improve the final design following evaluations and experiments with problemsolving. Students should be aware of this process for building a quality portfolio.		
Final feedback	Teacher : Should examine their final and provide the second comments to fix and change problems.	Students: Are willing to continue to revise their designs to achieve success and professionalism. (Figure 4)		



Figure 3. Research towards andragogical direction

Figure 4 is an example of students' works following an andragogical model. It shows great improvement after the final group critique and sequential revising process. Through advice and several comments from evaluations, students begin with revising and fixing major problems in their design. This method is critical in improving learning and teaching in design studios: especially in understanding objectives, perceiving all problems, and raising academic achievement.

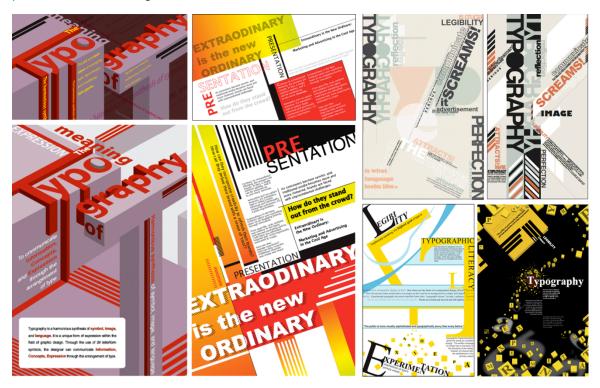


Figure 4. Revising and fixing problems from the critique and evaluation.

Conclusion

Through this case study comparing pedagogical and andragogical models in graphic design studio instruction, this author observed that an andragogical model improved student outcomes over a pedagogical model. Students improved in intensive research,

enhanced visual quality, and heighten their professionalism. In addition, applying an andragogical model appears effective in managing students as adult learners.

Another positive result is an increased interaction between students and the teacher which increases the number of student with successful outcomes. This approach also decreases the number of misunderstandings, increases motivation in self-direction, and also increases student-to-student feedback over traditional pedagogical approaches.

In conclusion, this case study will not only help educators improve student outcomes in design studio classrooms with members of Generation "Y", but also help frame future discussion regarding teaching and learning in graphic design education.

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Author Biography

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Sang-Duck Seo received his B.F.A. in Industrial Design from Daegu University, S. Korea and his M.F.A. in Graphic Design from Iowa State University in Ames, Iowa, USA. He is an assistant professor of Art at the University of Nevada Las Vegas (UNLV), teaching graphic design. He has various work experiences in both Industrial and graphic design industry such as SAMSUNG, GM DAEWOO Motors, and the KOREAN MINT in S. Korea. He is also one of 200 security designers around world, worked for the KOREA MINT as a researcher and designer. His research focuses on a variety of interesting topics, especially pedagogy & design methods and he has presented at national and international design conferences.

Appendix A: An example of the checklist for design process and individual feedback

Art456 Graphic Design III

Name:

Corporate Identity

Problem 1. Symbol & Signature	Excellent (A)90-100	Need Improvement (C)70-79	Poor (D)60-69	Unacceptable (F)0
Quality of efficient communication method		 		
Proportion ratio		 		
Uniqueness / Clarity		 		
Problem 2. Stationery				
Typography and graphics		 		
Uniqueness of visual identity				
Quality of paper construction and production				
Problem 3. Promotion				
Design layout / Composition		 		
Efficient visual elements / graphics		 		
Quality of contents/communication methods		 		
Puller of Charles of the Call				
Problem 4. Sginage/wayfinding Clarity and uniqueness of information				
Efficient environmental presentation				
Quality of contents/communication methods				
equality of contents/communication methods				
Problem 5. Package				
Quality of Mock-up		 		
Efficient presentation of visual identity				
Integration with 2D and 3D		 		
Problem 6. Manual Book				
Creativity of Book design				
Details & quality of presenting contents				
Design layout/composition		 		

Checklist for final submission

- 1. Symbol and Signature (Manual book)
- 2. Stationery (Printout and mock-up) Business card, letterhead and envelope (big & small)
 Event/invitation card, Official business folder, CD case.
- 3. Promotion (Printout brochure and name tag, mock-up for shopping/goodies bag) Shopping/goodies bag (paper construction required)
 Company brochure (folding or book type: no bigger than 8 X 11 inch)
 Poster or banner design (8 1/2 X 11), conference signage, name tag,
 Website (main page: 800 x 600 pixel)
- 4. Signage/Wayfinding (Template and images on the manual book)
 Exterior: building, wayfinding (parking, entrance)
 Interior: door signage (office door, restroom), information center (standing or wall)
 Banner: outside street

Total:

Transportation: front/side/rear

5. Package (Mock-up) Product package box or bag (3D structure)

6. System Manual Book (Mock-up: book design)

Appendix B: An example of the final group critique evaluation

Art358 Typography, Assignment 3. Typographic Form and Symbol

Name:					
	Excellent	Good	Need Improvement	Poor	Unacceptable
Concept Approches/Dev	elopments				
Challenge the given subject matters					
Profusion of idea					
Concet/Idea Development					
Innovation/Distinctive Idea Innovative idea					
Typography Expeireme	nts/Creativi	ties			
Uniqueness visual form					
Clariety of visual message					
Typeface Function					
Quality of Typographic Symbol					
Detials and Quality in typeface					
Composition with 8 symbols					
Clariety of visual message					
Quality of Typographic Symbol					
Finishing Quality					
Creativity, Working Efformation Following Design process					
Intensive learning quality					
Final design outcomes					
Participation of critiques					
Final Submission on time					
Other Comments:					
			Total I	_	
			Total		