

CHALLENGES IN TEACHING A DESIGN FOUNDATION COURSE TO NON-DESIGN STUDENTS

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ABSTRACT

This paper is about my experience over the last 3 years in developing pedagogy and teaching basic design modules at Information and Communication Management Programme (ICM). ICM is an inter-disciplinary programme offered by Faculty of Arts and Social Sciences and School of Computing, National University of Singapore. Primary aim of this programme is to prepare students for the demands of new knowledge based economy. The programme intends to provide students with the critical skills they require for the analysis and processing of various forms of information, the management of its dissemination, the effective use of information technology, and communications processes. Graduates of this programme are high-level generalists, capable of entering and adapting quickly to different market situations in which information is critical to success.

ICM curriculum is planned such that students must have exposure to both the social science insights as well as the technical skills related to information and communications technology. Modules offered under this programme broadly fall under two categories, "Information and communications management" and "Content creation and communication". Crucial component of Content creation and communication segments are 3 content design modules (Principles of Visual Communication, Designing Content for New Media and Digital Media Project Management). This paper discusses challenges faced during design and development of one of these modules

Keywords: teaching and learning, studio-based teaching, design pedagogy, assessment, reflection

1 INTRODUCTION

I joined the programme 3 years ago to teach different aspects of information visualization and communication (visual design, digital content production and multimedia project management). Coming from a traditional graphic design background it didn't take long to realize that pedagogy for teaching design fundamentals to non-design students is quite different from the one I was exposed to in my design school. Factors that differ from traditional design school setup and impede traditional teaching methods are.

1. Student's background and exposure: Students are not screened to check their inclination towards design.

2. Teaching environment: Design education relies heavily on situated learning. In a typical university setting, students are scattered and only congregate for lecture/tutorial.
3. Lack of support structure: To name a few - Class sizes are large, restrictions on course time and credit allocation, lack of studio space, lack of supporting courses.

Once the problems were analyzed, I thought coming up with appropriate solution would not be too difficult. However, as the things turned out, it took much more effort and time than I expected before I hit the right path. In this paper, I wish to share my experience in developing pedagogy for teaching module titled “Principles of Visual Communication”. This is my first and the most popular of three modules.

2 MODULE DEVELOPMENT

I joined ICM programme in the year 2000. I was given the responsibility to design and develop information visualization and communication based modules to complement “content creation and communication” segment of the programme. I had almost full freedom in design and development of the modules except for one restriction - that the module has to comply with the existing university undergraduate modular structure.

2.1 University modular framework

University operates on a Modular system in which students read modules and gain modular credits (MC). MC reflect the workload required for each module. A modular credit (MC) is a unit of the effort expected of a student stated in terms of time. One MC is equivalent to 2.5 hours of study a week. Thus, a module with a weightage of 4 MCs would require a student to devote 10 hours of work a week, including lectures, tutorials, laboratory sessions, homework, and independent or group study. A module is taught over a semester (16 weeks). There are two main semesters a year [1].

Present framework allows instructor to change the ratio of lecture hours to study hours. For this module, I have combined lecture with tutorial to make room for 3-4 hours of studio and the rest (6 hours) allocated for lab work and assignment preparation.

2.2 Principles of Visual communication - Module overview

This module assumes that students have no prior experience in the areas of design. It introduces students to theories of visual communication: including human perception, psychology of color, and principles of design. They also learn application of these theories in designing and evaluating visual content through series of assignments.

2.2.1 Module objectives

1. Understanding the basic functions of visuals in communication
2. Understanding and generating methods and methodologies for solving information communication problems
3. Developing visualization skills, concepts and techniques
4. Understanding the relevant concepts in the psychology of perception, cognition and aesthetics and their relation to information design and communication
5. Discuss and justify their design with that of others

2.2.2 Module structure:

Class meets once a week for about 4 hours. Each week a new aspect of design is introduced. The following structure has evolved over time based on students pace of learning, quality of output and self-study workload.

The module structure is split into 4 sections.

Section I: Introduction and Process (3 weeks)

This section introduces students to process of design and appropriate use of graphic development tools.

1. Introduction
2. Design process
3. Introduction to graphic applications

Section II: Theory (4 weeks)

This section concentrates on visual design theories.

1. Representational Techniques and communication theory
2. Visual principles I (basic design)
3. Visual principles II (colour)
4. Visual principles III (visual perception)

Section III: Skill (2 weeks)

Here students develop skill and apply theories learnt in previous section. They are also introduced to proper use of type and visual composition.

1. Typography
2. Visual Design: Layout and grids

Section IV: Final project (5 weeks)

Students are free to choose their own design problem based on broad outline provided by the instructor.

1. Group project

2.2.3 Module requirements

1. Weekly assignments (6 assignments)
2. Group Project (5-6 weeks)
3. Learning report*
4. Final Exam

**Self-assessment report should address the module objectives. It is an informal report and should clearly communicate ones thought process, design decisions, effort, knowledge gained, self-assessment, peer feedback & reflection on feedback, while developing ones assignments. It should also include a brief assessment of overall module (a summery of all assignments and final project.)*

2.2.4 Evaluation

1. Continuous Assessment: 80% (20% classroom participation, 35% assignments, 25% Final project)
2. Exam: 20%

3 DESIGN PEDAGOGY

Due to the size restriction of this paper's format, I am not including module structure development issues. That said, the following discussion on design pedagogy should give an indication of the relevance of present module structure.

3.1 Background

Following are list of factors that influenced the shaping of design pedagogy over 3 years. Some of the factors identified are specific to students belonging to this region. They arise due to university admission criteria, regional schooling, cultural and social setting.

3.1.1 Students motivation

Factors which influence students' enrollment into this module, in descending order of enrollment percentage.

1. Interested in art and craft activities
2. Learning visual communication skills
3. Learning graphic software application tools
4. Based on past students module review
5. Curiosity or degree requirements

3.1.2 Problems identified in learning

1. Application of theory into practice
2. Ability to connect different concepts taught during semester
3. Initial inertia: Students are accustomed to traditional "chalk and talk" method of instruction. Students expect detailed lecture hand outs and very clearly defined assignments.
4. Inadequate contact hours (4 hours once a week): The stress is more on self-study. This requires more than usual amount of self-discipline and motivation.

3.1.3 Problems in teaching

Most difficult task in teaching design to students without any prior exposure is to make them understand that...

1. Design unlike art does not provide much scope for self expression
2. Most design problems are hard to define
3. There is no one perfect solution, it is about arriving and placing one self in a position which is best under given circumstances.
4. A designer should know how to use his/her tools of trade but, just learning to use tools does not make one a designer

3.2 Developing pedagogy

Every year based on students' performance and feedback, I try to identify areas of improvement. So far there have been 2 major revisions. I'll try to cover important aspects which led to significant changes in terms of teaching methodology and strategy.

3.2.1 First revision

When the module was first introduced, I tried to follow typical design school teaching format. I kept the class group small (15 per group) and tried to follow a simplified studio by combining lecture and tutorial.

Format: The class starts with students displaying their previous week's assignment, followed by lecture, Q&A, next week assignment and discussion with students on problems they faced while designing and producing their previous assignment.

Problems identified with above method:

1. Though it seems obvious now, learning in design school happens more due to social activity. In a university setting, students have to move from one lecture theater to another based on their timetable. Unlike in design schools, our faculty does not have a place where students can work /discuss their work with rest of the class after contact hours.
2. In a design school, there are supporting courses that sustains and supports design activities of students. In this situation, this module is the only design module.
3. Though students' feedback on the module was positive, I did not notice any deep learning. Students were looking at lectures as a means to complete their assignment.

To fix the above problems I needed a mechanism that would encourage students to think and reflect on what they were doing and also to interact with fellow students.

Critiquing of assignments was introduced to address this problem. Students were encouraged to critique each others work. To add seriousness to this activity I introduced grades for participation and presentation. Design critiquing is a stressful activity for students and needs preparation. This forced them to think about, what and why they were working on their assignments.

3.2.2 Second revision

Though, the above changes did improve quality of learning substantially from earlier format it still lacked the depth I was hoping for. Students were still treating each lecture and assignment as an isolated package. You attend lecture, take assignment, refer lecture notes, complete and handover assignment, and repeat the same for next assignment. There was no effort on their part to understand interrelationships between different concepts. This problem triggered second revision.

Last year I made these following changes.

1. *Self-assessment report*: students are now required to write an informal report on each assignment. In this report, they are asked to document their thought process and design decision process while developing each assignment. They are also required to document peer feedback on their assignments and what they feel needs to be done to improve their design.
2. *Assessment*: All assignments are assessed based on the above report. Effectively, I was grading design process and problem solving approach more than the outcome.
3. *Assignment revision*: previously students used to submit their assignments at the end of each week. Now they are required to submit all their assignments at the end of the semester with self-assessment report. They were also allowed to improve on their assignments based on peer feedback and new concepts learnt as the semester progressed. This enabled the students to refine projects as needed through out the semester. Moreover, this also requires some amount of self-discipline through time management.
4. *Peer assessment and reflection*: assignment presentation and design critiquing format was changed slightly. It is a bit more aggressive now. Students are

encouraged to critically analyze peer and self designs, the presenter can also defend his/her design based on assignment objectives.

These changes brought in a drastic improvement in quality of learning. The self-assessment report was the most effective change. I was surprised to see a drastic change in terms of their design critiquing and defense argument quality.

Revisions in assignment: By allowing students to revise their assignments as many times as they wished, has given them an opportunity for improving their grades by correcting their mistakes. Moreover, the mere fact that they were holding on to their assignments and thinking about possible improvements made them see the whole module as one entity, effectively encouraging deep learning approach.

In the following section, I'll try to explain present teaching method and strategy in detail.

4 TEACHING METHODOLOGY

Hybrid Digital studio: teaching method has evolved over past three years. Starting as lecture cum tutorial class, it has now evolved into a unique format (a combination of lecture, tutorial and design studio). For lack of better word, I'll call it hybrid studio.

4.1 Structure of a typical hybrid studio

- The class meets once a week for around 4 hours
- The class starts with earlier week's assignment presentation and critique. The critique is based on guidelines provided by instructor. (Duration: 60 to 90 minutes)
- A game or activity to demonstrate the need for the concept/lecture which follows. (Duration: 10 to 15 minutes)
- Lecture introducing new concept. (Duration: 30 to 40 minutes)
- Question and answers session. (Duration: 10-20minutes)
- Classroom activity to establish concepts taught on that day. (Duration: 60-90 minutes)
- Finally, new assignment for self study and Q&A. (Duration: 10-20 minutes)

Examples of assignments, group project, games and classroom activities will be shown in the presentation. If the presentation format allows, video of students' interview may also be accommodated.

4.2 Teaching environment

Lectures and studio are conducted in a modified computer lab. The lab is equipped with 30 workstations and a daylight LCD projector connected to instructor's computer. The students work on all their classroom activities and assignments using mostly digital tools.

4.3 Support material

The module is supported with following teaching and learning support material

- Hard copy of module objectives, requirements and assessment criteria
- Website with...
 - Module objectives
 - All lecture slides
 - Lecture notes with examples
 - Forum for discussion

- Optional workshop to introduce computer based graphic development tools.

5 TEACHING STRATEGY

5.1 Situated learning

Situated learning or constructivist learning

This is mainly achieved through...

- Keeping class group small (15 to 20) to maintain one on one contact through out the semester. The mere fact that the student has my full attention does wonders to his/her learning style.
- Creating a sense of community within each class. By introducing small games to keep the humor and tempo alive in a class. Biggest advantage of building a successful community is that students learn faster because of collaboration, trust and help/knowledge sharing with/from others. They also push harder to be a part of the community (nobody wants to be let out, especially when everybody seems to be having such fun).

5.2 Teaching approach

Form follows function. I am not here to discuss whether this dictum applies to design practice or not but, one thing I am sure about is, that it works wonders in teaching design. Students need boundaries to focus (It is different from boundaries which curtail creativity). By encouraging putting function before form helps them in keeping design for communication turning into abstract art which is open to subjective interpretation.

I insist that students follow basic visual principles and rules taught in the class. However, I also give them an option of breaking them if they are confident and knowledgeable enough to give a rationale explanation. This strategy really pushes top students to prove themselves with out hurting average and below average students.

5.3 Creating designer attitude

Encouraging students to think and act like a designer through positive reinforcement.

Following are few important processes students are encouraged to internalize

- Appropriate use of terms while defining design problem
- Problem solving/Solution finding methodology
- User centric approach while analyzing design requirements

6 CONCLUDING REMARKS

A new phenomenon was observed after the last module revision. The number of students registering for this module based on past students recommendation has increased quite rapidly. As critiquing in the new format is quite stressful for most students, first thing past students talk about is the vigor of design critiquing sessions. This is encouraging new students to prepare themselves for taking critiquing sessions either in a very defensive or overtly offensive manner. Though this is a bit undesirable effect, so far it is making sure students take their assignments and projects seriously. Nonetheless, I have to make sure that this activity is encouraged through positive reinforcement rather than negative reinforcement.

Presently, I am also in the process of evaluating existing methods for further improvement for the next academic year. Following are some issues I am working on.

- Some students who did extremely well in handling assignments and design project did not do well in written exam. The reason for their under performance in exams is nothing to do with their ability to express. These students are very good in communicating their ideas both verbally and in writing.
- Collecting feedback from our first cohort which graduated in 2002.
- Developing frame work to find out if there is any relationship between design learning styles and personality types
- The teaching method I am presently following requires students' enthusiasm and active participation. Every now and then, I get a student who is in the class for wrong reasons. As the class groups are small, it does not take more than one uncooperative student to drag the morale of the whole class down. In an ideal situation, I would prefer to remove such students from the class, but I cannot do that here. I am exploring possibilities of a solution for this problem under present university policy.

REFERENCES

[1] <http://www.nus.edu.sg/nusbuletin/0304/modules.htm>.

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