

WICKED PROBLEMS IN DESIGN THINKING

By: Group 4

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Richard Buchanan's design thinking as a new liberal art of technological culture

Old VS New Liberal arts

According to page 6 which mentioned Dewey speech can be concluded that difference between old & new liberal arts is that the old ones focus on memorizing facts, while new one focus on using new ways of thinking that connect ideas together to solve more complex problems and bring about more out of the box solution.

Technological culture

Technological culture refers to a society where technology is woven into our daily lives from our culture and values to how we live, think, and organize life. In this culture, the problems we faced are more complexed, interconnected, and constantly changing - they can not be solved using one discipline alone.

This is where design thinking comes in. Design thinking merges multiples disciplines together and uses them simultaneously to break through limitations and boundaries that otherwise might've been deemed impossible to overcome come.

Buchanan refer to technology as a form of “discipline of systematic thinking” and that “every liberal art had its own technologia or systematic discipline. Likewise design also have a technologia, and that is in the “planning.” This is the beauty of the age we are living in today, that there is technology and other decipline of thinking that went into the technology around us.

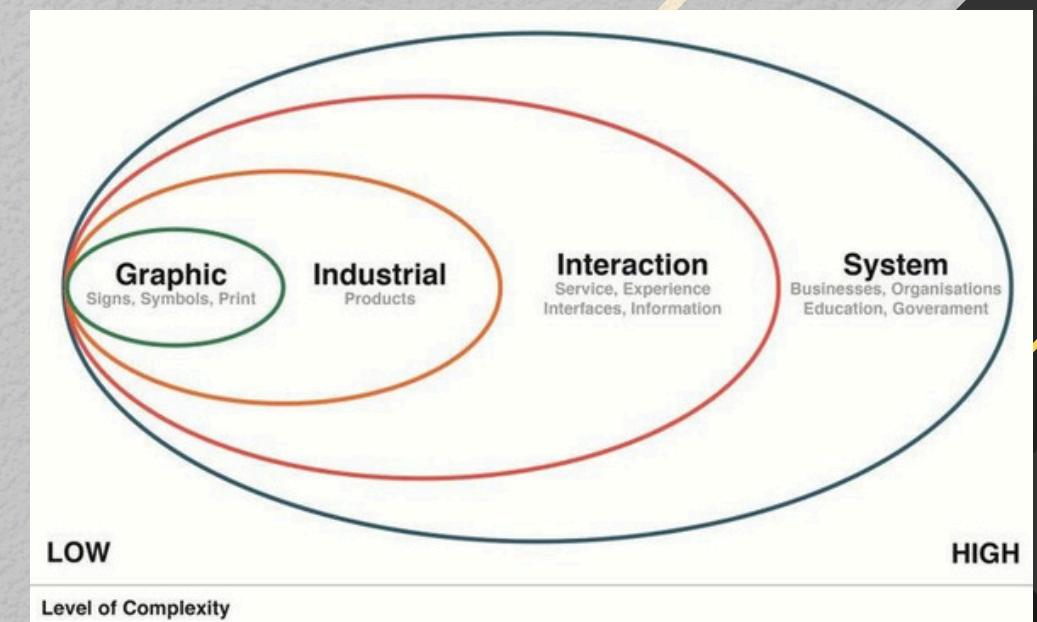
The Doctrine of Placements consist of four area :

First area is that symbol & visual communications. This include element of traditional such as graphic design, such as typography and advertising, book & magazine production. However, as technology evolves it has also blend into film, TV & computer display. Which reduce the problem of communicating information.

Second area is the design of things. This fills with component of object we use in each days such as clothing, domestic tool, machinery or even vehicles which can be considered as a traditional form. However, it also expanded and diverse in appearance and physiological e.g. Culture relationship between people & products.

For the third area, activities and management, we need to combine traditional things such as gathering resources and scheduling with design, strategic planning, and management. The main idea is how connection and consequences can make events flow more smoothly and leave a more satisfying experience for clients.

For the fourth area, we combine engineering, urban planning, and architecture then analyze parts as a whole breaking down into hierarchies. We expand new ideas such as unity and balance into this area to better adapt or shape environments. This area helps sustain, develop, and integrate human's environment.



Richard Buchanan's elaboration of Horst Rittel's 10 characteristics of “wicked-problems”

Richard admits the list is remarkable, yet fails to answer the fundamental question:
defining “Why are design problems indeterminate and, therefore, wicked?”

Ans: Design has no Subject Matter because it is Interdisciplinary, Universal

Take into consideration:

- *The subject matter of the design is based on what individual designers determine it to be. (General method)*
 - *Therefore the limit of design thinking by definition is universal.*
 - *In order to apply the art of design thinking, the designer must make concrete the issue of specific circumstances. (Particular method)*

Richard Buchanan's elaboration of Horst Rittel's 10 characteristics of “wicked problems”

Plot twist!

- General conceived designs do not and cannot constitute science of design in the sense of any natural, social, or humanistic science
- “Design is fundamentally concerned with the particular, and there is no science of the Particular”

Another plot twist

- Actually, designers usually work with the particular method or *quasi-subject* in practice.
- A *quasi-subject* is an *indeterminate subject waiting to be made concrete*
- *In this method, the designer apply the practice of positioning or considering all aspects relevant to the problem*
- Positioning = considering all aspects relevant to the problem
- Positioning + Relevancy = Product (working hypothesis)

Part 2, problem 14

Problem: Thailand is becoming an aging society. The senior citizens now face hardships in daily routines such as living, working, commuting, and enjoying their free times. Your team is assigned to devise a blueprint of policy to mitigate this social problem. [#AgingSociety]

Who are the stake holders (The players, constituencies, and interested parties) in the situation you are considering?

1. Elderly people (80+ in age)

Those in need of help who need to be taken care of

2. Middle aged working people

Social worker/ office worker who work 9-5 and doesn't have time to take care of their elderly family members

3. Late teenager/ young adult within their late high school years

Those looking for community service opportunities, or a part time job.

4. Business / business men looking for opportunities

Those ready to provide capital funding for the necessary facilities in return for a potential profit opportunity

5. Government

The government are legally responsible for pension and senior healthcare support

Part 2, problem 14

How do the various stakeholders' motivations align or conflict with one another?

Align :

- To help and provide cares to the elderly for them to be able to live their daily life without concern or struggle (all stakeholders)
- Investment in preventive healthcare and long term care system (government, elderly, middle age)
- Business want to invest in elderly housing or training for profit in turn helping the elderly secure safe housing or stable income (business, elderly)

Conflict

- higher pensions and better healthcare support lead to higher taxes or public debt
 - government - doesn't have the best support but is affordable
 - middle age - wants to pay the least while ensuring the best support and treatment
 - business - wants the most profit meaning highest cost but also provides the best care and technology for the seniors
 - young adults - wants to be paid highly, or want to work at a reputable firm
- Seniors may want job opportunities but business may resist hiring older worker due to productivity level (Business vs. elderly)

Part 2, problem 14

How do the possible resolutions to the problem change as you include the perspective of different stakeholders?

Having a **private company** operate a senior care facility is one of the most optimal solution as such resident would be able to provide the best care for **elderly** using the most advance technology compared to a **government** run facility. However **business** opportunist often care most about profit making rather than taking the people's struggles into consideration making it harder for **middle age** workers to be able to afford sending their loved elderly to such care faculty. A government owned facility that provides care for senior citizen would be another great solution, however being government run means that the money used to operate the residence would come from the citizen's tax money increasing the burdens on the working class.

What other factors (ie. technical, regulatory, etc.) may be relevant to your assigned problems?

- requiring more accessible/disability friendly tools in various places, especially in public spaces
- less workers in the workforce, especially complicated ones robots or AI can't replace properly
- more nursing homes since there may not be kids taking care of their parents
- better hospital equipments to decrease doctors workload instead of dealing with lots of patients
- better financial aid/savings plan for the elderly and retired people

Part 2, problem 14

Our proposed solution:

Thailand is becoming an aging society, so policies should focus on helping seniors live their lives safely while still providing them with plentiful opportunities, whether that means working, living at communities home, or traveling individually. Government and private business should come together to a middle ground where company can still make some profit from investing in nursing home while the government makes sure that it is still affordable to the normal income household. The reason why this solution doesn't propose the program being fully government run is because we believe that private business have more capita to invest in better technologies and facilities for the elderly. That being said, the government should implement clear laws and standards for accessibility in order to improve transport and public spaces to be age-friendly, with accessible buses, trains, and sidewalks through ramps, rails, elevators, etc. A portion of our taxes should also be reserved for future health measures when we become a senior citizen such as free annual checkups, and fall prevention programs. Not only does the government needs to take action but our society must also change to accommodate the aging population. Subcommunities of senior citizen should be formed and organized to help regulate their emotional well being reducing their isolation and to provide them with regular exercise that's beneficial to their health. Schools should promote their youth to volunteer and spread awareness through their social networks to spark more change. Over all, this change can only be made possible if everyone plays a part and help out where they can. We can come together to create an environment where seniors can live with dignity, independence, and happiness. A society that cares for its elderly is one that secures a stronger and more compassionate future for all.

Part 2, problem 25

Literacy rate, digital literacy, and emotion management are the core issues in contemporary Thai society.

What are the possible solutions that your human development team can advise to the recent cabinet?

[#LifeLongLearningSkills]

stakeholders	motives
Social media platforms	Platform for digital literacy, Influence emotional health, Visual Media User's attention, more users on their platforms
Students (citizens still receiving education who have yet to join the work force)	Primary Stakeholder, demographic for strong literacy Lower screen time, need to develop literacy skills and emotional management
Employers	Lower quality candidates, large quantity of unemployed population Need for high-skills employees with human relations skills
Educational Institutions	Responsible for the literacy rate, digital literacy, and emotional management Quality teachers and students
Government	Overseeing the quality of education, education policy maker, and overall wellbeing of citizens. Quality citizens and work force

Part 2, problem 25

Conflicts

- Social Media—Education Institution: Social media platforms wants users to stay on their platform as long as possible, while education institutions and students want lower screen time
- Student—Employers: More creative occupations that value experience over education
- Education institution—Student—Government: Government sets the standard for institutions, in which students must meet the minimum requirement.
- Goverment: Responsible for providing material/technology and supervising all institues.

Aligns

- Employer—Government: Need for quality human resources
- Government—Students—Education institution: Need for quality education
- Students—Employers: Both want the development of soft skills such as literacy and emotional management
- Sudents—Goverment: Interested in higher education internationally, and foreign institution investment.

Part 2, problem 25

Possible solutions :

Education Institution—Student—Government:

- Require schools to send in reports of student attendance, and general school gpa, etc.
- Insentivise educators to teach at schools all over, to allow quality education to reach all of Thailand.
- Update school equipments: general equipments such as tables and chairs, computers.

—> Allow children to be well educated, and inspire them to achieve higher education internationally (Governement--Student). Moreover, creates a more literate workforce (Student—Employer).

Employer—Government:

- Employers can help take responsibility for employees by providing government trained staff to inform employees of ways to increase digital literacy. Additionally, employers are responsible for keeping a healthy workplace environment, to support emotional management.

Part 2, problem 25

Recommended course of actions

Although there is the word “literacy” in both, literacy and digital literacy are not the same. While literacy usually means the ability to read and write, digital literacy is knowing how to navigate the internet safely, knowing what to post or what not post, and information screening.

Emotion management is the ability to regulate your emotions rather than letting it rule over you.

The three issues may look unrelated, but the fundamental skill that individuals possessing these qualities have in common is critical thinking. Since these are pressing issues requiring a large scale reformation in the country’s system, our team have divided the plan into long term—a change in Thai education system that will cultivate critical thinking in younger populations and short term implementation for groups that are not in the education system and older demographics.

Short term:

- Offer free digital literacy classes in community centers with both day and night schedules to target older population and those not in the education system
- Create campaigns to cultivate critical thinking skills in adults, building awareness of thinking habits, leading to better judgement in both literacy and emotional aspects.

Long term

- These are plans that focuses on the younger population, creating sustainable and strong foundation in these skills for soon-to-be work forces
- Create incentives to allocate teacher resources to rural public schools such as scholarships and upgraded facilities
- Scholarship programs for students that requires paying back as teaching in rural public schools
- Allocate more budget for the education sector, especially public school
- Make IT classes compulsory at school, and make sure it educate digital literacy as well as implement syllabuses that encourage children to develop critical thinking skills

THANK YOU

