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Design Intent as the Driving Force for Systemic Change

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Design Intent as the Driving Force for Systemic Change

Methodological constructs

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There is an urgent need to enable designers to respond to the requirements of an increasingly complex multi-layered scenario. As wicked problems become a norm and conflicts between opposing factors emerge, there is a need for an empathetic, systemic understanding in order to arrive at effective, systemic solutions. The paper examines systems theory and the unique designerly approaches towards systems theory. The study further investigates the phenomenon of design intent and response towards systemic concerns through multiple case study analysis approaches by analysing case studies in a quasi-experimental setup wherein a group of design students worked on the same systems model but responded with varied design intent and conceptual ideas. The presentation puts forth the argument for a more focused approach towards understanding values and meanings held by designers/ design students and its impact on evolving both the design brief and solution space. Based on multiple case study analyses, methodical constructs, including individual concerns based on personal experiences and systemic considerations of multidisciplinary perspectives, developing an understanding of multiple perspectives and inclusion of points of view from multiple stakeholders are elaborated. The use of these methodological constructs derived from a systems understanding is expected to help designers/ design students arrive at diverse and holistic responses to address complex problem spaces.

KEYWORDS: systemic design, design intent, methodological constructs, design practice

RSD TOPIC(S): Methods & Methodology, Cases & Practice

Presentation summary

Systems theory evolved with the development of general systems theory during the study of living systems and the interrelationships between them. (Bertanlanffy, 1969). In design, it has helped towards broadening the worldview, nurturing transdisciplinary approaches and widening design boundaries. Developing a broad design intent also helps towards arriving at design solutions which are strategically integrated with the systemic context. (Buchanan, 1992). This paper strives to investigate this phenomenon in order to bring about a better understanding of the role of design intent in responding to systems.

Designers are dealing with complex realities and 'wicked problems' in the current times. Everyone designs and devises courses of action aimed at changing existing situations into preferred ones. (Simon, 1996). Artemide has followed a strategy of incorporating radical innovation of meaning. (Harvard, 2009). While values and meanings have an underlying subjective approach apparent in how designers may generate different design opportunities for the same system, systems thinking has enriched designers by giving a wider understanding of the creation space.

Research inquiry and methods

The primary stance taken is that reflecting on design practice could lead to a theoretical framework which in turn would help in furthering the practising profession. (Creswell & Plano Clark, 2006). A multiple case study method was proposed as a method to build theoretical constructs based on practice (Yin, 2009). The assignment to study educational systems was given to a group of 15 students as part of a three-week course. Based on the systems model generated as a group, students created their own design solutions (Figure 1).

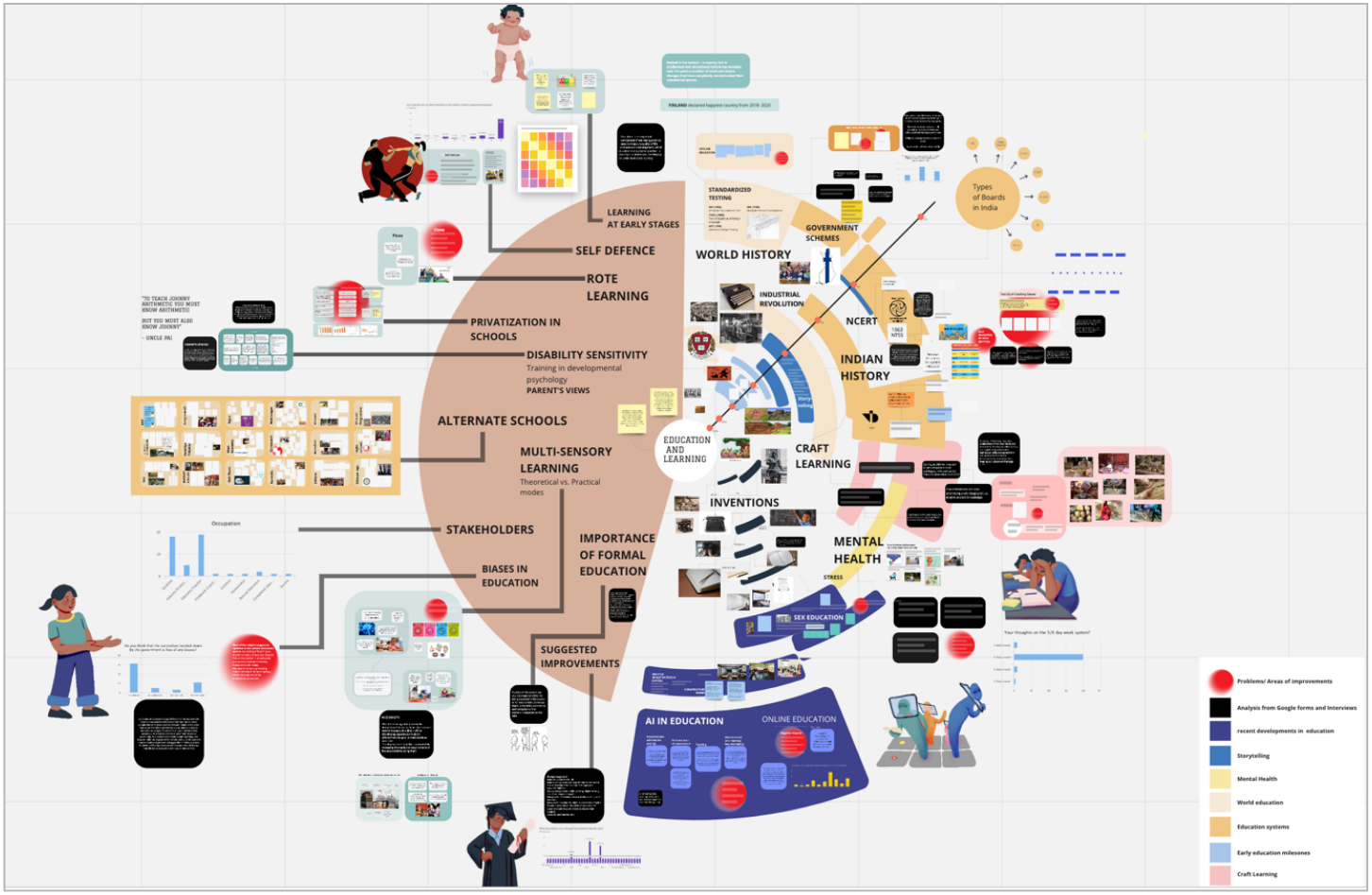

Figure 1. A systems model for the education and learning system.

An educational setup allowed the real-life context to be studied in a quasi-experimental setup. The primary research was conducted in schools, residences, traditional craft communities, sports academies, playschools etc. The secondary research included a study of the historical evolution of the education system and formal/informal education system. Six of the case studies are analysed in this presentation.

Case study 1

The design intent was to create awareness about the subject of learning disabilities-specifically dyslexia. This brief was inspired by the personal experiences of the student observing her classmates being discriminated against due to learning disabilities.

Solution: Card play with a set of 33 interactive cards explaining difficulties faced by children with learning disabilities (Figure 2).

Case study 2

Children and parents, especially in rural India, lack awareness of career opportunities. This insight helped the student to choose the design intent of spreading awareness to help make an informed decision about a career.

Solution: An informative site giving information about careers in an engaging manner (Figure 3 a&b).

Case study 3

Enabling students and teachers to communicate effectively in online learning systems and engage in peer group learning. The experience of going through online learning experiences during the pandemic resulted in this intent.

Solution: An application to improve the online education system (Figure 4 a&b).

Case study 4

Online learning has been difficult for children 3 to 6 years old since it does not provide opportunities for hands-on, experiential learning. The design intent is to provide a hands-on learning experience to children as a supplementary.

Solution: A tangible educational toy (Figure 5).

Case study 5

Screen time has drastically increased due to online classes. The design intent, therefore, was to aid in dealing with problems of bad posture and screen time.

Solution: A device which attaches to the user's chair and reminds them if they need to correct their posture (Figure 6).

Case study 6

The experience of having worked in an organisation engaged with hearing-impaired children led to the design intent of teaching sign language in a fun, engaging way.

Solution: The solution was a conceptual detailing of a TV show, including examples of characters, storyline, and storyboard (Figure 7 a&b).

Figure 2. Case study 1. Set of cards.

Figure 3a. Case study 2. Webpage from a career portal for rural children.

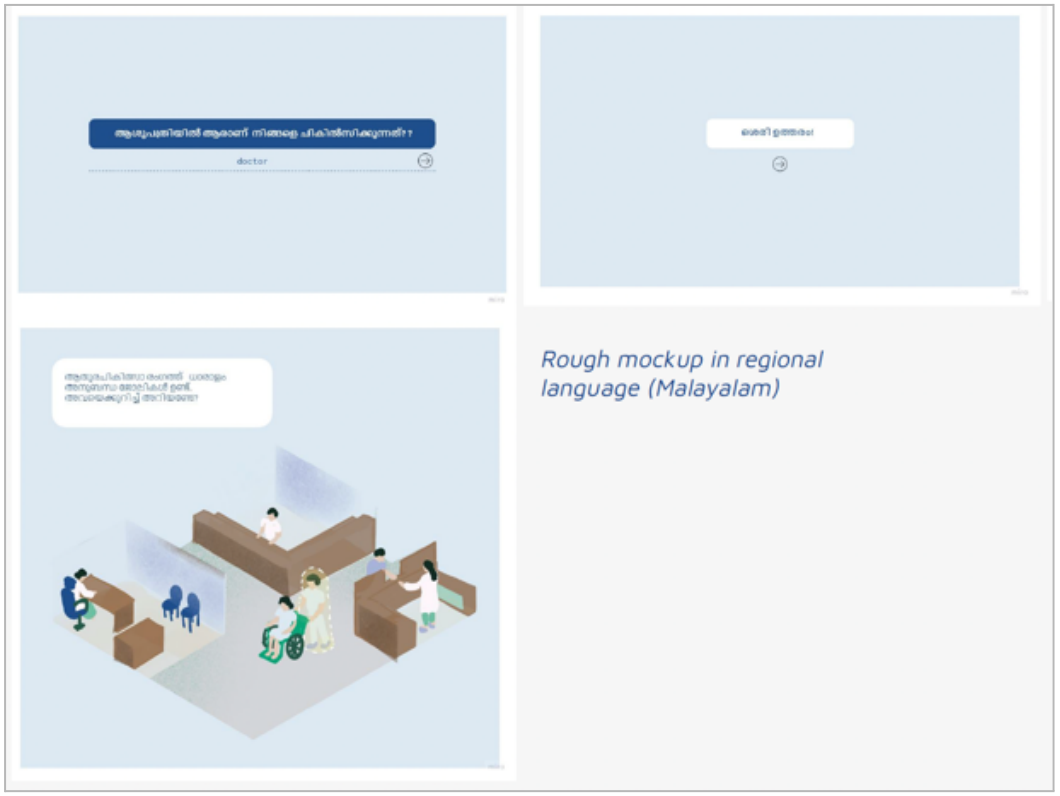

Figure 3b: Case study 2. Regional language mock-up of a career portal for rural children.

Figure 4a. Case study 3. Convo bridge—a platform to improve the online education experience.

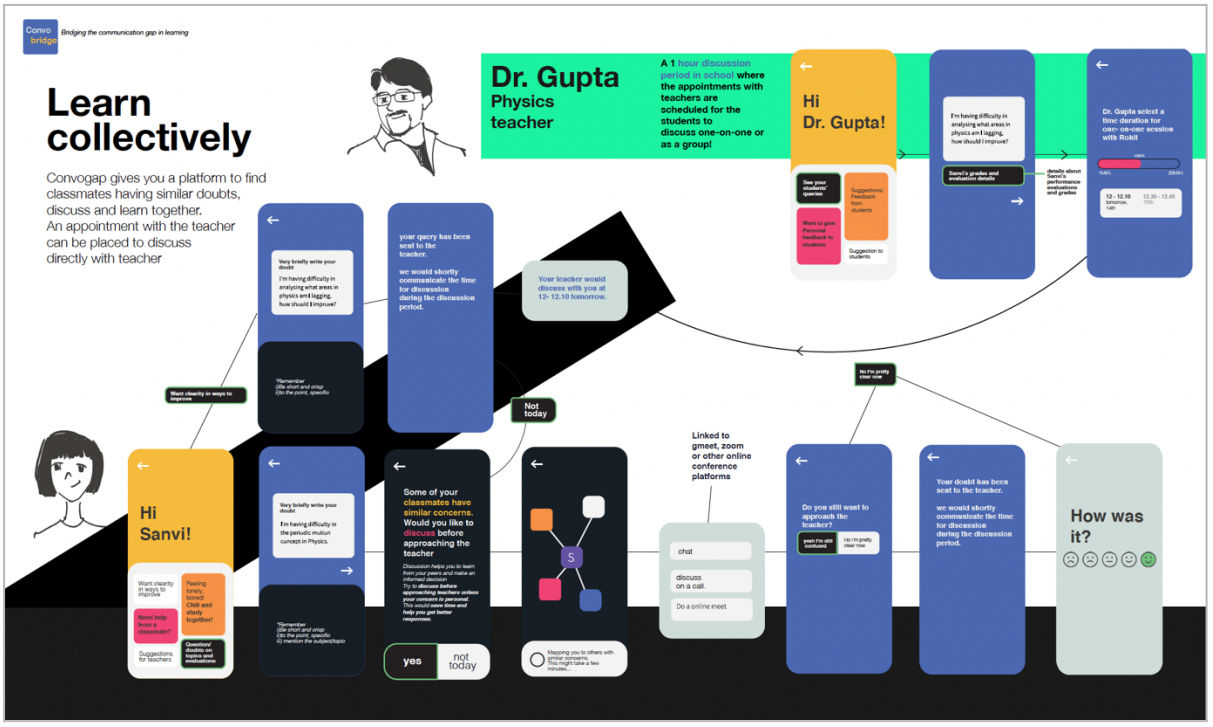

Figure 4b: Case study 3. Convogab—a platform to improve the online education experience.

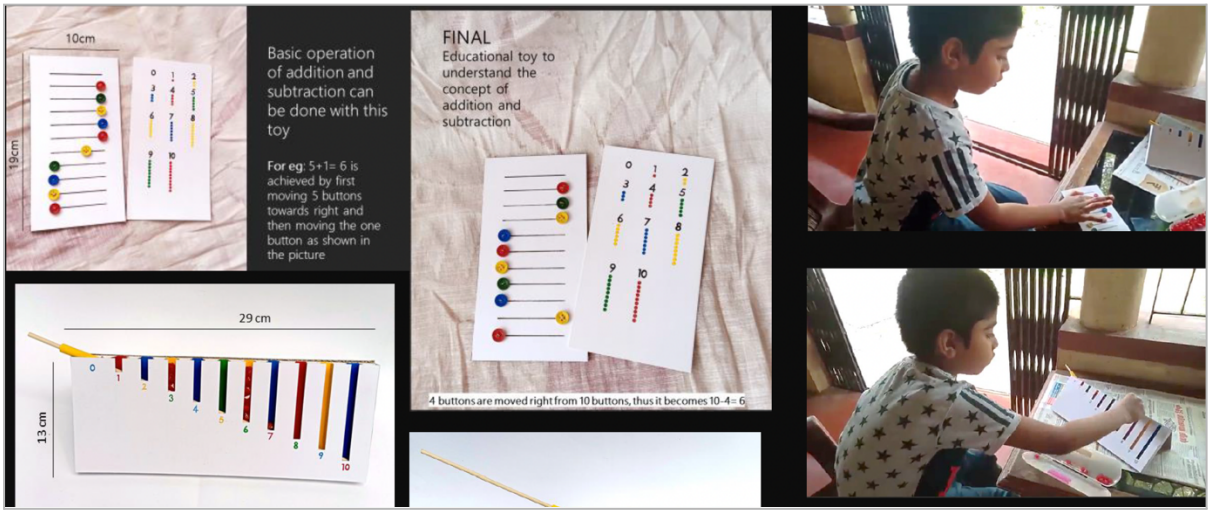

Figure 5: Case study 4. A supplementary educational toy.

Figure 6. Case study 5. An accessory to improve sitting posture.

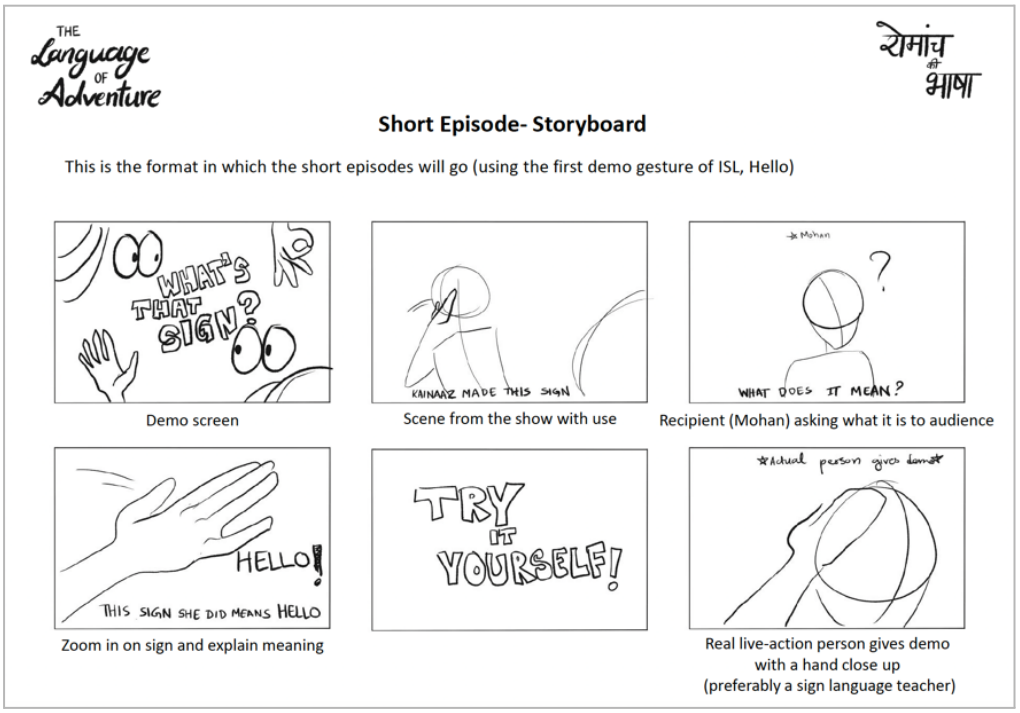

Figure 7a. Case study 6. Storyboard for a TV show for learning sign language.

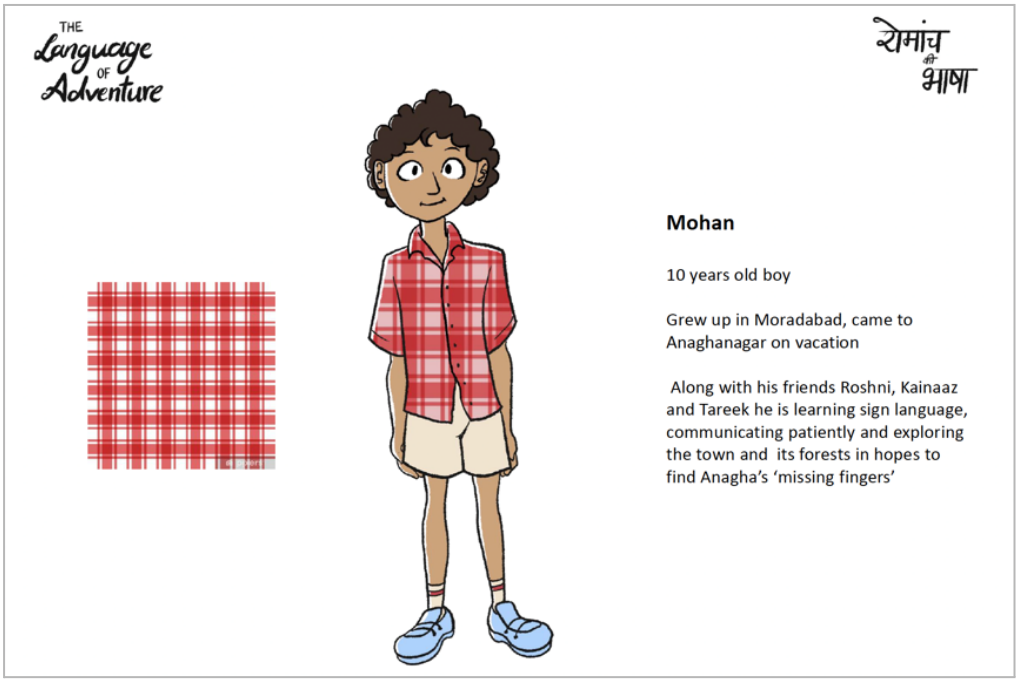

Figure 7b. Case study 6. A character from a TV show for learning sign language.

Conclusion

Analysis of case studies was done through multiple case study analyses by studying patterns of similarities and differences across case studies. This led to findings on how design students choose their briefs. The methodological constructs are elaborated on below.

1. Individual concerns

The design intent is often determined through concerns identified by the design students. These concerns were based on their values as well as past experiences or empathetic study of users done as part of the field study done during the project.

2. Systems perspective

2.1 A multidisciplinary perspective

A systemic perspective leads to a multidisciplinary perspective. Design faculties and disciplines across industrial design, communication design, interaction design, etc., may have their unique takes regarding dealing with issues and concerns related to the system and coming up with a variety of tangible solutions.

2.2 Multiple stakeholders

The systems model helped in synthesising perspectives from various stakeholders connected with education. The empathy and understanding exhibited for these multiple stakeholders (often with conflicting viewpoints) resulted in some of the solutions.

2.3 Multidimensional viewpoints

A typically focused design brief given by a client is largely driven by economic considerations. However, a broader systemic understanding leads inclusion of other perspectives, such as social, cultural, psychological etc.

Design intent results in arriving at a design direction which in turn affects the concepts for systemic change. Identification of concerns based on the values and personal experiences of design practitioners determines the evolution of design intent and brief.

Systemic considerations, including a multidisciplinary perspective, multiple stakeholder considerations and multidimensional points of view, determine the possibilities of systemic design approaches. The methods introduced here are expected to help design practitioners towards responding more effectively and creatively to designing systems.

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