Chapter 5
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Service Design Thinking: A Case Study on Academic Lectures Addressed to Higher Education Students

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ABSTRACT

This chapter provides suggestions for developing and implementing academic lectures on Service Design Thinking addressed to students of Higher Education Institutions (HEI), based on a case study carried out at the Department of Education Studies of University of Bologna.
It reports some advice and tips for teaching this new concept. Also, it points the attention on some aspects raised during the delivery of lectures in classroom that deserve to be shared with the growing community of professionals interested in this concept.
This contribution focuses mainly on practical aspects that should be considered when organizing lectures on this theme. Therefore, the chapter consists of three sections:

- Presentation of innovative pedagogic approaches adopted to define a theoretic framework of reference.
- Provision of literature's sample analyzed and used for developing lectures.
- Reflection about lessons learnt.

This work is a collection of practical implication and feedback emerged during the experience carried out and it is aimed at stimulating a wide confrontation in order to find practices that can help to understand "how and what" to teach about Service Design Thinking in HEI context.

Keywords: Service design thinking; teaching, higher education students; innovative pedagogic approaches.

1. WHAT THIS CHAPTER ADDS?

Service Design Thinking (SDT) is an innovative approach for the development of services in the community. It is recommended to Higher Education students in order to provide them with new tools for shaping the current society and find innovative solutions for the provision of services.

This chapter describes a case study carried out in Italy at University of Bologna for introducing SDT to students attending the academic Course in Social Educator degree (an audience not trained as designers) and for giving them the opportunity to develop ideas and projects based on this approach.

It includes useful elements that can be used by academics and provide tips on how to present, organize and deliver lectures on this topic.

The chapter shows the process to design and implement lectures, briefly describes innovative pedagogical approaches used to define a theoretical framework, and a list of the literature analyzed to select lectures' contents. The experience can be replicated, adapted or re-designed in order to develop interventions aimed to teach SDT to HEI students [1].

Since there is not much empirical research focusing on how to teach SDT in academic and other contexts, this chapter provides insights for more research in this area.

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2. INTRODUCTION

This chapter sheds light on practical aspects and reflections raised by authors during the phases of lectures' planning and delivering.

Despite this experience has been realized in the context of Higher education [2] the elements emerged can be useful also for the organization and implementation of workshop, training and other learning activities focused on SDT.

The chapter consists of three sections:

(a) Suggestions to answer some basic questions raised during the preparation of lectures.

The initial questions were focused on the following aspects:

- How to present SDT to students?
- How to organize tasks to be assigned?
- How to capitalize outputs and results achieved by students?

(b) List of references concerning the literature inherent the SDT used to select what contents include in lectures. This list is aimed also to allow readers to explore the definitions of SDT provided by expert authors (the references provided do not want to be exhaustive, but explanatory).

(c) Final reflection on lessons learnt.

This contribution is not an evidence-based research, but a collection of literature examples, practical feedback and reflections emerged during lectures' planning and delivery within the Social Educator degree at the Department of Education Studies of the University of Bologna (2015-2016).

Therefore, it wishes to stimulate a wide confrontation on an innovative concept that requires more investigation on how to be taught.

3. A PROPOSAL OF THEORETICAL FRAMEWORK FOR TEACHING SDT

The development of teaching activities focused on SDT was based on a theoretic framework of reference composed by different innovative approaches. This framework was defined in order to avoid the adoption of teaching and learning methods that are not theoretically founded and don't fit with students' needs [3,4].

SDT, as innovative concept, requires the use of new approaches to be effectively taught (including tools, strategies, assessment processes). Such as the definition of new ways to design services and understand emerging needs of community requires insight about theories and practices to plan innovative solutions [5].

The pedagogical approaches adopted to deliver lectures are summarized in Table 1.

We have selected these innovative pedagogic approaches to define the framework for the design of lectures, including practical activities and tasks. These approaches helped to support an effective understanding of what "involvement and participation" means – two essential elements to build experiences based on real-life needs, especially when planning the use of services.

The adoption of one or more approaches described in Table 1 has required an effort to establish new way to deliver contents, but it was necessary for enhancing student's capability – capacity and ability [12] – to think in a different way.

In other words, students have been stimulated to adopt a divergent way of thinking [13], instead of a classical convergent way [14], looking towards flexible and innovative solutions to face current problems and needs connected to the provision of services in the community.

Table 1. Pedagogical approaches adopted for delivering lectures

Approach	Features
Participatory Approach	An approach in which everyone who has a stake in the intervention has a voice. Staff of the organization that will run services, members of target population, community officials, interested citizens, and people from involved agencies, schools, Universities and other institutions should be invited to contribute [6]
Cooperative Learning	An approach that aims to organize activities into social learning experiences. Unlike individual learning, which can be competitive in nature, students learning cooperatively can capitalize on one another's resources and skills. Everyone succeeds when the group succeeds [7]
Process Oriented Guided Inquiry Lessons	An approach based on a learning strategy that has both a constructivist and social component. It focuses on using the real-life experiences of learners in order to create knowledge and considers how students relates to the environment [8]
Social Learning	An approach that tries to develop cultures and environments for learning that harness the emancipatory power of spaces and interactions outside formal curriculum through the use of new technologies and co-curricular activities [9,10]
Project Based Learning	An approach which focuses primarily on having students engage in explorations of real-world problems and challenges. Students learn about a subject by working for an extended period of time to investigate and respond to complex questions, challenges, or problems [11]

3.1 How to introduce the concept of Service Design Thinking

The initial assumption for introducing SDT to students was that this concept can represent an instrument of knowledge and interaction with the world, society and community that surround them.

In a society strongly outsourced, students quickly become aware that most of their daily actions are part of the flow of services (e.g. to buy a product, to pay bills, to study, to find a job, to receive health care, social support).

For each of these actions, a student understands being a player in the big game of services [15]. When it happens, the discussions about this role raise as they realize that "services" are something belonging to the lives of everyone (in positive or negative way).

As first step, for some people this "awakening" represents both an opportunity and a sort of trauma or amazing wonder, because realizing that a large percentage of daily actions are the result of a good or bad design, makes them feel powerless. In this awaking, we found an interesting element of SDT.

The second step consists of discovering the "wires" that underlie the daily actions, and consequently "what" has been designed in term of user's experience and "how" a service is delivered [16].

The understanding of the wires behind the design of a service[1] is important for explore, create, implement and reflect about the organization of services and students' perceptions [17].

[1] *The term "service" is used in a holistic meaning including social, health, educational, employment, leisure and support services that involve a wide range of organizations (public, private, non-profit) and actors that compose the current welfare state in many EU Countries.*

The “awaking” and “understanding” about service delivery leads to reflect on: (a) the experience of service, and (b) the outsourcing of service through its reproducibility.

In our case, these two reflections have been contextualized (e.g., in the service provision of education, heath, employment, etc.) and used to define the hypothetical service designed by different groups of students.

The objective consisted of placing students in the same “designer’s point of view”, and then let them experiment a sort of oriented creativity [18].

In this way, the elaboration of service flow required a specific attention of user’s experience that implied the understanding of the concept of reproducibility.

The awareness of these two roles – the designer and the user – represented an important aspect for moving towards the SDT and have an active role in designing user’s experience, instead of having a merely passive way of thinking about services.

As consequence, this allowed students to move from a phase of passive observation to an active construction of services as integrated into user’s experience, and to develop a critical approach and to reflect on empathy. It is important to notice that the “empathic aspect” [19] played a key role for the identification with users from both emotional and decisional point of view.

In other words, students were no longer passive actors of flows designed by others but became active agents [20] within the service, able to understand straightness and weaknesses.

This aspect had also an impact in term of active citizenship awareness [21], as allowed students to be aware of the outsourcing of society and its ways to build the experiences of people who live in it.

Another aspect useful for introducing SDT was to explain the importance of the involvement and participation of other actors. For example, public-private representative, local authorities, social agencies, associations, ONGs, etc., interested in the provision, delivery and use of services.

Concerning this aspect, the suggestion is to organize a preliminary visit to the service and interview some users before and after the provision and some service’s staff members in order to facilitate the understanding of how it is organized and delivered and how it is perceived by users and staff.

For the organization of such visit, it was useful to elaborate a list of questions, based on Yes/No answers or a Likert scale [22].

The information collected (e.g., perceptions, needs, ideas from users) were important for starting to plan the reproducibility of the service and design the user experience.

3.2 How to Organize Activities and Tasks

Activities and tasks to be assigned to students were defined through a precise process [23] consisting in 4 phases, each of one executed by students once divided in small groups of 4-6 persons:

1) Explore

Selection of one or more techniques appropriate to the subject area for making an exploration of the needs addressed by the service.

2) Create

Elaboration of the service flow considering the feedback collected through the involvement of services staff members (e.g., operators), and data from interviews with users.

3) Implement

Test or simulate the service using the flow designed and feedback collected.

4) Reflect

The data collected have to be analyzed and indexed in order to determine the level of performance, level of satisfaction and level of accessibility/usability.

The review of data allows an interactive perspective that facilitates the re-exploration or re-designing of service on the base of what emerged and through a continuous improvement.

In the process of execution of each phase, it was important to encourage the development of an empathic aptitude [19] based on data analysis. This helped learners to assess users' needs and expectations as well as to reflect on and make a comparison with their own system of empathic expectations.

For each phase, we have defined some tools to be used in different contexts for the elaboration of services (e.g., services for supporting persons in tourism, employment, education, health care, leisure, etc.), leaving students the opportunity for selecting the tool that better fit with the service's context, aim, needs and students' background.

Examples of tools applied to 2 different contexts (on-line and social services) are reported in the Table 2:

Table 2. Samples of tools applied to on-line and social services contexts

Phase	Tools applied to: On-line context	Social context
Explore	The tool "Personas" allows building a prototype of single user. The prototype represents the desires of users.	The tool "Ethnographic research" allows the identification of social groups in terms of needs of users and relative service.
Create	The tool "Cognitive walkthrough" allows the Personas to walk into the service and define each stage of the on-line service.	The tool "Stakeholder Map" and "Touch Points Map" allows students to elaborate and develop more complex users' expectations respect to the hypothesized service.
Implement	The tool "Indexes and Indicators" for the simulation of the hypothesized service.	The tool "Indexes and Indicators" for the analysis of the hypothesized service.
Reflect	The use of Indexes and Indicators allows the collection of feedback and dynamic analysis of data in order to provide possible scenarios where to rethink the service if it doesn't fit with user expectations/needs/desires.	

3.3 How to Capitalize the Results Achieved

During lectures students experimented a creativity-oriented process and need-based analysis [24]. They have also experienced forms of empathy with users through interview [25], collection of data focusing on their needs, adoption of specific tools of SDT such as personas, mental map, touch point map, target segmentation, etc. Finally, students have designed a service based on users' needs, emphatic aptitude and context resources.

The "capitalization" of this result consisted of providing the opportunity to test what was designed within a precise context.

The major effort was represented by the establishment of strict collaborations and participation with service providers for assuring the possibility to test something new, designed by student (often unaware user) and elaborated with the suggestions of operators and users.

This was useful also to create a link between what was studied in academic environment and the real-life. Moreover, for capitalizing the outputs achieved it was useful to organize a restore activity (e.g., creation of a dedicated database).

Every group of students has registered a blog aimed to keep track of the design process respecting two precise principles of SDT: seriality and iteration.

These principles helped students to reflect on: (a) the opportunity to experiment virtually on the hypothesized service; (b) the results of empirical tests developed to assess the level of accessibility/usability, the indexes and indicators defined in the design process.

In other words, the seriality was proposed to students as mean of re-production of service creation process, while the iteration was proposed as mean of re-vision of service creation process.

4. LITERATURE USED FOR LECTURES' PLANNING

In this paragraph a list of references is provided in order to shed light on the main contributions concerning the concept of SDT used to plan lectures. In Table 3 are reported articles from current literature listed by author, year and title in order to help readers to find more insight on this topic.

This literature review was undertaken primarily for selecting contents and design practical activities to be provided during lectures. Also, to locate literature relevant to the purpose of this review the databases PsycINFO, ERIC, Google Scholar, and ProQuest were searched from their earliest records to most recent.

Within each database, searches were conducted using the combinations of keyword subjects. The following keyword subjects and key Boolean terms were combined to search the above databases:

- service design, service*, design*
- creative thinking*, divergent thinking*
- participation, involvement, user*, user experience*
- cooperation, co-creation*

Manual searches of reference lists of relevant articles were conducted to identify further studies.

Outcomes of interest for the present contribution were those relating to the domains of the design, service delivery, participation, real-life and others.

Moreover, results from this preliminary analysis suggest that a systematic review on SDT deserve to be carried out due to the paucity of research about this concept.

Table 3. Articles literature analyzed to design lectures

Authors	Year	Title
Akama, Y.	2009	Warts-and-all: the real practice of service design. First Nordic Conference on Service Design and Service Innovation. Oslo. Norway
Akiyama, Y., Shimomura, Y. & Arai, T.	2009	A Method of Supporting Conflict Resolution for Designing Services. 1st CIRP Industrial Product-Service Systems (IPS2) Conference (pp. 54-61). Cranfield, UK
Bitner, M. J.	1992	Servicescapes: The Impact of Physical Surroundings on Customers and Employees. Journal of Marketing 56(2), pp. 56-71
Blomkvist, J. & Holmlid, S.	2009	Examples in Service Design. First Nordic Conference on Service Design and Service Innovation. Oslo, Norway
Burns, C., Cottam, H., Vanstone, C. & Winhall, J.	2006	Transformation Design. London, UK: Design Council

Authors	Year	Title
Candi, M. & Saemundsson, R. J.	2008	"How different? Comparing the use of design in service innovation in Nordic and American new technology-based firms". Design Studies 29: pp 478-499
Carr, V., Sangiorgi. D., Buscher, M., Cooper, R. & Junginger, S.	2009	Clinicians as service designer? Reflection on current transformation in the UK health service. First Nordic Conference on Service Design and Service Innovation. Oslo Norway
Cautela, C., Rizzo, F, & Zur1o, F.	2009	Service Design Logic: An approach based on the different service categories. Proceeding of the International Association of Societies of Design Research, IASDR 2009. Seoul, Korea
Clatworthy, S.	2009	Bridging the gap between brand strategy and customer experience. The target experienced tool. First Nordic Conference on Service Design and Service Innovation. Oslo, Norway
Cooper, A. Reimann, R. & Dubberly, H.	2003	About Face 2.0: The Essentials of Interaction Design. Hoboken, NJ: John Wiley & Sons, Inc
Diana, C., Pacenti, E., & Tassi, R.	2009	Visualtiles – Communication tools for (service) design. First Nordic Conference on Service Design and Service Innovation. Oslo, Norway
Evenson, S.	2005	Designing for Service. Proceeding of DPPI. Eindhoven, Netherlands
Frayling, C.	1993	Research in Art and Design. Royal College of Art Research Papers, 1(1): pp. 1-5
Gasparini, A.	2009	Perspective and Use of Empathy in Design Thinking
Gaver, B., Dunne, T., Pacenti, E.	1999	Design: Cultural Probes. In interaction 6(1): 21-29
Gloppen, J.	2009	Service Design Leadership. First Nordic Conference on Service Design and Service Innovation. Oslo, Norway
Gong, M., Suteu, I. M. & Shen, J.	2009	Chita 08: Collaborative Service and Mobile Communication: A Service Design Workshop on Chinese Sustainable Lifestyles and Inter-Culture Experiences. 8th European Academy of Design Conference, (pp. 174-179). Aberdeen. UK.
Han, Q.	2009	Managing Stakeholder Involvement in Service Design: Insights from British service designers. First Nordic Conference on Service Design and Service Innovation. Oslo, Norway
Holmlid, S.	2007	Interaction design and service design: Expanding a comparison of design disciplines. Nordic Design Research Conference, NorDes 2007. Stockholm, Sweden
Kaario, P., Vaajakallio, K., Lehtinen, V., Kantola, V., & Kuikkaniemi, K.	2009	Someone Else's Shoes - Using Role-Playing Games in User-Centered Service Design. First Nordic Conference on Service Design and Service Innovation. Oslo, Norway
Kim,Y. S., Wang, E., Lee. Y. C. & Cho,Y. C.	2009	A Product-Service System Representation and Its Application in a Concept Design Scenario. 1st CIRP Industrial Product-Service Systems (IPS2) Conference. 1-2April 2009 (pp. 321-39). Cranfield, UK
Kirnbell, L.	2009	Insights from Service Design Practice. 8th European Academy of Design Conference. (pp. 249-253). Aberdeen, UK
Kimbell L. & Siedel, P.	2008	Designing for Services - Multidisciplinary Perspectives: Proceedings from the Exploratory Project on Designing for Services in Science and Technology-based Enterprises. Oxford. UK: Said Business School
Kronqvist, J., & Korhonen, S.-M.	2008	Co-Designing Sustainable Solutions - Combining Service Design and Change Laboratory. First Nordic Conference on Service Design and Service Innovation. Oslo, Norway
Lee, M. K. & Forlizzi, J.	2009	Designing Adaptive Robotic Services. Proceedings of the International Association of Societies of Design Research, IASDP 2009. Seoul, Korea

Authors	Year	Title
McLaren, K.	2014	The Art of Empathy: A complete guide to Life's Most essential skills
Maffei, S., Mager, B. & Sangiorgi, D.	2005	Innovation through Service Design. From Research and Theory to a Network of Practice. A Users' Driven Perspective. Joining Forces. Helsinki, Finland
Mager, B.,	2004	Service design: A review. Cologne, Germany: KISD
Manzini, E.,	1993	Il Design dei Servizi. La progettazione del prodotto-servizio. Design Management (7)
Miettinen S., & Koivisto, M.	2009	Design Services with Innovative Methods
Morelli, N.	2002	Designing Product/Service Systems: A Methodological Exploration. Design Issues, 18(3): pp. 3-17
Morelli, N.	2003	Product-service systems, a perspective shift for designers: A case study: the design of a telecentre. Design Studies24: pp. 73-99
Morelli, N.	2009	Service as Value co- production: reframing the service design process. Journal of Manufacturing Technology and Management, 20 (5), 568-590
Pacenti, E.	1998	Il progetto dell'interazione nei servizi. Un contributo al tema della progettazione dei servizi. (Vol. PhD thesis in Industrial Design). Milan, Italy: Politecnico di Milano.
Pacenti, E., & Sangiorgi, D.	2010	Service Design research pioneers: An overview of Service Design research developed in Italy since the'90s. Design Research Journal 2010 (1), pp. 26-33
Parker, S., & Heapy, J.	2006	The Journey to the Interface. London, UK: Demos
Penin, L. & Tonkinwise, C.	2009	The Politics and Theatre of Service Design. Proceedings of the International Association of Societies of Design Research, IASDR 2009. Seoul, Korea
Pinhanez, C.	2009	Services as Customer-Intensive Systems. Design Issues, 25 (2) pp.3-13
Popovic, V., Kraal, B. J. & Kirk, P. J.	2009	Passenger experience in an airport: an activity-centred approach. Proceeding of the International Association of Societies of Design Research, IASDR 2009. Seoul, Korea
Raijmakers, B., van Dijk, G Lee. Y. & Williams, S. A.	2009	Designing Emphatic Conversations for Inclusive Design Facilitation. Include 2009. London, UK
Sangiorgi, D.	2004	Il Design dei servizi come Design dei Sistemi di Attività. La Teoria dell'Attività applicata alla progettazione dei servizi. (Vol. PhD in Industrial Design). Milan, Italy: Politecnico di Milano
Segelstrom, F.	2009	Communicating through Visualizations: Service Designers on Visualizing User Research. First Nordic Conference on Service Design and Service Innovation. Oslo, Norway
Segelstrom, F. Raijmakers, B. & Homlid S.	2009	Thinking and doing ethnography in Service Design. In Proceeding of the International Association of Societies of Design Research, IASDR 20009. Seoul, Korea
Segelstrom, F, & Holmlid, S.	2009	Visualization and tools for research: Service designer on visualizations. Nordic design Research Conference, NorDes 2009. Oslo, Norway
Shostack, L.	1982	How to Design a Service. European Journal of Marketing (161), 49-63
Shostack, L.	1984	Design Service that Deliver. Harvard Business Review, 62 (1), pp. 133-139
Singleton, B.	2009	Services Design in New Territories. Proceedings of the International Association of Societies of Design Research, IASDR 2009. Seoul, Korea
Sparagen, S. L. & Chan. C.	2008	Service Blueprinting: When Customer Satisfaction Numbers are not enough. International DMI Education Conference. Cergy-Pointose, France

Authors	Year	Title
Stickdorn, M. & Zehrer, A.	2009	Innovation in Tourism. First Nordic Conference on Service Design and Service Innovation. Oslo, Norway
Wreiner, T., Martensson, I., Arnell, O., Park Gonzalez, N., Holmlid, S. & Segelstrom, F.	2009	Exploring Service Blueprints for Multiple Actors: A Case Study of Car parking Service. First Nordic Conference on Service Design and Service Innovation. Oslo, Norway

5. LESSONS LEARNT

In the final part of this case, students had the opportunity to compare their works in order to identify and analyze the features of methods used by different groups during the design of hypothetical services. This comparison showed that different methods were applied to different areas of concern and it led to different design processes and solutions.

The lesson learned was that the SDT is not a unique method and that there is a meta-design process through which to organize and structure the service.

Therefore, the SDT helped students to reflect on both aspects, the methods and the meta-design process to contextualize and organize service.

This learning strategy – based on constructivism and social component – also allowed students to focus on the real-life experiences of users and consider how they relate to the environment and to have students engaged in explorations of real-world needs and challenges.

Therefore, method and meta-design process are deeply connected with the area of concern where the service is being developed and the type of services to be provided.

Also, summarizing what students learned, we invite readers to consider that similar experiences could not lead to the same results in terms of learning: (a) critical thinking skills, (b) knowledge of different methods to design services, (c) awareness of the importance of meta-design process to contextualize and organize services, (d) empathy to reflect and consider expectations and needs expressed by users, and (e) experience in adopting constructive and participatory approaches in service design process.

Lastly, students learned about a subject (the hypothetical service designed) by working for an extended period of time to investigate problems and respond to complex questions.

6. CONCLUSION

The case study implemented allowed students to experience this innovative concept within academic environment during classroom lectures, leading to the creation of hypothetic services on the base of students' input despite they were not trained as designers, but as social educators.

From this case emerged how it is important to consider the future role as social workers, not as passive subject but as active agent in the design and provision of services.

Consequently, to provide approaches including methods and tools for service design is fundamental to encourage the development of new insights and ideas for answering community's expectations about services.

Therefore, SDT can represent the seed for the growing practice of differentiation and optimization of services provided based on users' expectations.

In other words, it can ensure quality and continuous adaptation exploring users' perception and reflecting with an emphatic aptitude.

For this reason, we stress the importance to establish a sort of "pool" or "experimental environment" for service design, able to involve students, public and private services in order to allow them to experience services from a relational point of view, as "space" for a mediation between methods, tools and users' experience.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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