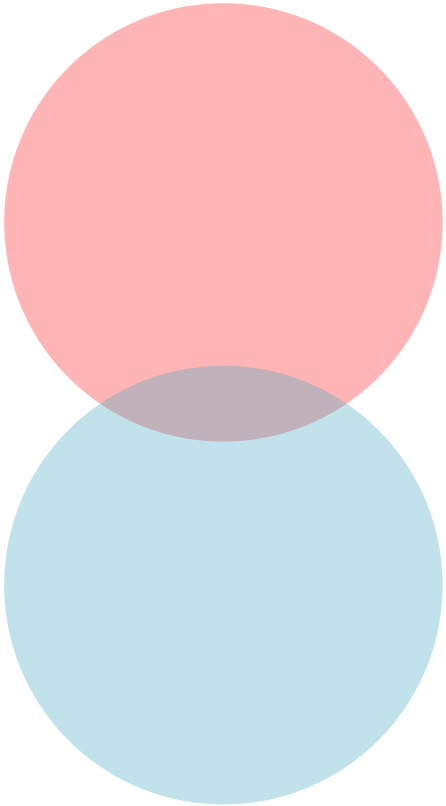
“DO YOU KNOW WHAT A SENSOR IS?”

Peer learning in interdisciplinary design teams

Pınar Kaygan, Selin Gürdere
Arsev Umur Aydınoğlu
Harun Kaygan, Özümcan Demir
Middle East Technical University

Industrial Design



Engineering

Interdisciplinary Collaboration

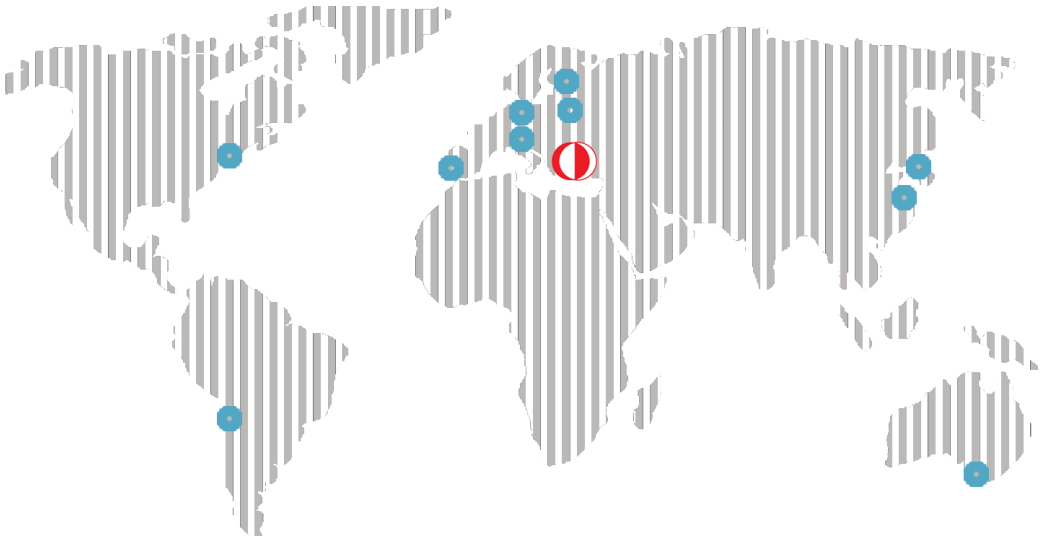
Learning from peers

VS.

Learning from tutors

METU Design Factory (DF)

Interdisciplinary research and education center for product development and prototyping, supported by the Ministry of Development of Turkey.



Interdisciplinary Design Studio (IDS)

*extra-curricular educational activity offered by METU DF

16 faculty members

- Faculty of Engineering
- Faculty of Architecture
- Faculty of Economic and Administrative Sciences

42 students

- Industrial Design
- Architecture
- Mechanical Engineering
- Electrical and Electronics Engineering
- Metallurgical and Materials Engineering
- Computer Engineering
- Industrial Engineering
- Business Administration

Interdisciplinary Design Studio (IDS)

28 Sep – 23 Oct 2015 (4 weeks)

1 — 2 — 3 — 4

Training week

Conceptual design

Design detailing

Finalization

Interdisciplinary Design Studio (IDS)

Interaction between tutors and students:

Seminars and Workshops

Mentoring Sessions

Student Presentations

Methodology

1. Interviews
   30 interviews with 24 students

2. Written answers to feedback questions
   Sent via e-mail, answered by 30 students

Challenges

1. Understanding of design
   Each discipline had different perspectives and priorities.

2. Space
   Students did not have a dedicated studio to work with their team.

3. Time
   It was a limited resource for both mentors and the students.

Learning from peers vs. tutors in IDS

Peer learning can be defined as the acquisition of knowledge and skill through active helping and supporting among status equals or matched companions. It involves people from similar social groupings who are not professional teachers helping each other to learn and learning themselves by so doing. (Topping, 2005)

Keith J. Topping. 2005. Trends in Peer Learning. Educational Psychology. University of Dundee, Scotland, Vol. 25, No. 6, pp. 631–645.

Learning from peers

> “Mechanical engineers understand something very different from design than we do. In production, for instance, we say we need to manufacture this. They say how and so, etc… What we mean by production is making a model (laughs). I guess they think you know… they say ‘are we really going to manufacture this?’ We say, ‘no, not really, we meant the model’. For us, manufacturing is not immediately putting something out to the market. (Architecture student)”

Learning from peers

> “Architects and industrial designers are really good at drawing. They can beautifully reflect what’s on our minds. I mean, from that point of view, the design thinking they have been taking for four years can be guiding.” (Industrial Engineering Student)

Learning from peers

> “What was good about Gulni (Industrial Design) is that she taught me the parts I didn’t know. I hadn’t thought of making apps before. I also liked things like our logo, which were Gulni’s designs. Stuff like that complemented my shortcomings. I mean I didn’t have such a vision, I have such a vision now. That is good. (Mechanical Engineering Student)”

Learning from peers

> “Everybody in the team makes a contribution. Especially during the mindmapping exercise the industrial design guy asks me, ‘How does it work in electronics? What do you do?’ For a mechanical engineer, for instance, as the physical stuff is prominent, it has to be planned accordingly. Now I think what is going to be prominent in electronics? What should I be mindful of? (Electronics and Electrical Engineering Student)”

Learning from peers

> “It should have been good for engineers to see these studios. Same for us, for example when we went to the department of mechanical engineering yesterday I said something like ‘I have been here for some many years but I didn’t know that there was a building like this’ and it was nice, it was different for me. I think it was the same for them as well. (Architecture Student)”

Learning from peers

> “In mechanical engineering, you can graduate without a professor knowing your name. You take classes, get an average grade, you graduate. None of professors know your name. But in Design, professors are like your mentors. You conduct a project, make something, she comes and evaluates it, advises you: do this, don’t do that, etc. I mean the mindset is different in these two departments. In one training is like mass production, and in the other it is more like handmade. (Mechanical Engineering Student)”

Learning from mentors

> “In the seminars, I guess it was the first week, Professor Adil made a presentation. I was impressed very much from it. It was like… it was about the marketing strategies of the brands. When I thought about it I realized that it was something I had never thought about before. I found that very interesting. It was like such a beautiful discipline it was, such beautiful things these guys were learning, such practical stuff. (Architecture Student)”

Learning from mentors

> “It was around the second week, the tutors were providing critique, like do this do that, some suggestions; it was like the tutors didn’t have a fully command of things… they didn’t have a common denominator or objective. Everybody had their own interpretation about the studio. They hadn’t decided about it, and that was interesting. We were receiving stuff from everyone in a different direction.” (Architecture Student)

Conclusions

THANK YOU!

Any Questions?

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