



The Scarcity and Creativity Studio – a Teaching and Management Study

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Abstract

The master course “Scarcity and Creativity Studio”, SCS, is a design and build studio within the Oslo School of Architecture and Design, AHO. The studio works with research and development within architectural pedagogy, and aims to let students take part in the full architectural process, from initial meetings with the client, site analyses and concept design to structural analyses, detailing and building. The whole process is carried out together with tutoring professors of architecture and structures.

Since 2012 the SCS studio has designed and built 10 projects in Chile and Norway. The projects range from small pavilions to a more than 100 m² community center. The outcome of each project varies, and gives input to the planning and picking of future projects.

We believe in building as a pedagogical instrument to educate good architects. In addition we place great emphasis on teamwork.

We believe that knowledge about the whole design and building process in 1:1 scale helps the students to understand the role of the architect, engineer and construction worker, and enhances the chance for fruitful cooperation in the future. Through teamwork the students also learn about their own strengths and weaknesses, and about cooperation.

In this paper I would like to analyze how this design and build studio has been organized and pedagogically managed from the beginning in 2012 until now, and discuss positive and negative experiences.

I would also like to compare our teaching methods with top sport coaching. Especially I would like to look at the way The Norwegian Female National Handball Team was led by the very successful coach Marit Breivik (1994-2009). I would like to look at similarities and differences, and evaluate these. The basis for this comparison will be a PhD thesis written by Associate Professor and Manager for the Norwegian Top Sports Coaching (Olympiatoppen), Liv Hemmestad. She followed the National Handball Team during 2003 and 2004, studying the effects of a leadership emphasizing involvement, shared leadership and empowerment, with a special focus on power relations.

1. Introduction

When the Scarcity and Creativity Studio (SCS) was established within The Oslo School of Architecture and Design (AHO) in 2012 it was, decided that the course would design and build one building every semester. The studio is shared between Christian Hermansen and myself.



Fig. 1. Three projects by the SCS studio; Left: Community center in Pumanque, Chile, Center: “The Wave”, amphitheater in Valparaiso, Chile, Right: “The Bands”, sauna in Lofoten, Norway.

2. Organisation of the Scarcity and Creativity Studio

During the semester students will design, build and exhibit one common project. Student numbers vary between 15 and 24, depending on staffing.

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2.1 Design process

To ensure that all the students feel some sort of ownership of the project, the studio has developed a unique design process.

At the start of the semester each student is asked to develop an individual design, allowing staff to get to know each student's design abilities as well as the studio generating a variety of design concepts.

At the end of stage 1 the individual projects are presented and discussed. This is followed by voting for those ideas with most potential; from which half of the projects continue to the next phase, where they are developed further by teams of two students who were not its authors. This pattern repeats itself a couple of times, until one project remains, which is the one to be built. At this stage every student has either been working on the project or has voted for it, thus everyone has influenced the final outcome.

In the detail design phase the whole studio works on the selected project. During this phase students are divided into teams with different responsibilities: design improvements, 3D modelling, detailing, structural concept and analyses, foundations, building regulations, materials and costs, construction planning, safety and sustainability, etc.

2.2 Construction phase

The next phase is the construction period, which normally lasts about one month and is quite intense. Students and teachers live close together ideally sharing at least one meal every day. We have daily morning meetings to discuss progress, distribute tasks, inform each other about changes, findings, etc. Most of the work is performed in teams, and the teams change depending on need, individual preferences, etc. During the construction period we have a blog which is updated every day so others can follow the process.

2.3 Exhibition and documentation

The last part of the semester is used for documenting the whole process and preparing an exhibition at AHO. The students normally make a film showing the building process, make models, posters and in some cases books. Several of the projects have also been published in different magazines, newspapers and web pages. (See <http://scs.aho.no/> for more information).

3. Pedagogy and Management

3.1 Building as a pedagogical instrument

AHO has a long tradition in encouraging students to design and build in different scales and contexts. We believe in building as a pedagogical instrument to educate architects. Through a design and build studio like SCS students experience the transition from representation on a computer screen, through drawings on paper, to a three dimensional building in full scale.

Stability of the structure is discussed during the design phase, but during the construction period the students may experience how the structure is unstable in the beginning, and how it gets more and more stable as cross bracing or shear walls/plates are added. We believe in learning by experiencing, because it is more durable than a theoretical one.

Other benefits are contact with real clients, overview of the entire process from sketches to finished project, insight into building techniques and regulations, enhanced structural understanding, contact with suppliers, insight in costs and budgeting, building and tool handling, understanding of the construction sequence and logistics, knowledge about the different roles and disciplines involved in a building process, development of detailing, experience with production drawings, etc.

However, to use building as an educational instrument is not without challenges. First of all it is a very resource-demanding education. Secondly it is a challenge to manage everything within one semester and particularly to finish the building task within one month. Normally we also get unexpected surprises which steal from our time and budget. It is also challenging to give every student proper instructions, ensure their safety and to employ them at their level.

3.2 Teamwork

Team work is used as a pedagogical instrument at our course. As the design process indicates, the students work in teams most of the time, and the teams change in size and composition several times during the semester.

Another important reason for working in teams is for the students to get to know each other better. During the construction period students and staff spend all hours together, both on and off the building



site. Together we experience ups and downs, mastering and failure, lack of sleep, aching muscles, homesickness, happiness, frustration etc. To be able to tackle this situation without a lot of conflicts it is an advantage if everybody knows each other quite well.

Other advantages highlighted by the students are improved communication skills, such as negotiating and arguing for their own ideas, ability to delegate, learning from each other, and learning to appreciate fellow students with different abilities than themselves.

3.3 Management

The teachers are the main managers of the studio, but the group of students is an important resource which often takes part in the discussions about who, how and when.

During the design process the teachers try to be guides rather than imposing their own ideas onto the students.

Depending on knowledge, personality and involvement the students are given different tasks and responsibilities. Some are appointed as leaders of a team, one or two are trusted to lead the whole group. The reason for having these leaders is to ease the communication between the teams and between the teams and the teachers. This is especially important during the detail design phase.

4. Comparison to Sports Coaching

4.1 Basis for the comparison

In this section I would like to compare our teaching methods with how The Norwegian Female National Handball Team was led by the very successful coach Marit Breivik from 1994 to 2009. I would like to look at some similarities and differences, and evaluate these based on [1].

4.2 The Norwegian Female National Handball Team - Coaching Philosophy

The statement "Together Everyone Achieves More" emphasizes that a strong team represents more than the sum of its parts. The focus on team work was expected to create a strong and harmonious national team with great diversity and lots of resources.

The handball team and its connected "staff" was organized in many different teams within the team, such as coaching team, analysis team, captain team, goalkeeper team, humor team, etc. Shared leadership was an important part of the team strategy, and the players were both trusted to be coaches for themselves and for other players. With this the coaches hoped to influence/affect the subjective experience of mastering and enhance the experience of self-determination, while supporting the idea that the athlete is the most important knowledge resource .

This way of coaching is in contrast to the more traditional authoritarian method, where the coach is seen as knowledgeable and the athlete not.

According to Hemmestad's observations the national team players were invited to share their opinion about their own situation and about the team's practices throughout the study period. A team gathering would for instant often start with a workshop on how they should use their time together in the best possible way, both on and off the court. The players couldn't determine the whole agenda for the gathering, but they could decide within given constraints.

The reason for involving the players in the coaching process was to commit them, motivate them and to direct their attention towards questions related to what is best for the individual players and for the team as a whole.

Another part of the coaching philosophy was to care for the whole person not only the national player, thinking that all parts of a player's life can influence the player's performance. To create a safe and good environment for the players with humor and energy was part of this strategy. To adapt to individual needs and preferences was other parts, for instant by letting the players have influence on how they wanted to organize their training. The players also got help from the coaches in combining playing at the national team with playing in the local club, having a boyfriend, family job etc. The coaches contributed even in more private challenges amongst the players.

Although the players were constantly encouraged to give their opinions on coaching etcetera Hemmestad's surveys show that many of the opinions remained within the group of players and were not conveyed to the coaches. In other cases players did give their opinion, but the coaches got the impression that they said what they thought the coaches would like to hear.

The coaches wanted to change the discrepancy between philosophy and reality, and tried to find the reasons why communication between the players and the coaches didn't work. They came up with two explanations; 1) the players have learned to respect the coach, to look at him or her as the boss that



has all the knowledge and makes all decisions, and 2) they themselves in many cases rejected or argued against the players which shared opinions with them.

One measure which helped to strengthen the communication between coaches and players was to establish a strong team of captains (chosen by the coaches) and representatives (elected by the players), which together constituted the playing board. Both the coaches and the players in the board spent a lot of time in getting this board to work as a mediator between coaches and players. When it worked it expanded the space, so that more of the marginalized voices could be heard.

4.3 Comparison

There are several similarities between the management of SCS and the coaching of the national team;

- emphasis on teams
- “middle management”
- shared leadership
- players/students as a knowledgeable resource

There are, however, differences as well, some of which are very inspiring. The coaches at the national team had a philosophy which was consciously thought through, based on both experience and research, and implemented at many different levels, from how the gatherings were organized to how they spoke (metaphors, word plays, repetitions, etc.). They were also aware that theory from research does not always work in practice, and hence willing to change if it didn't meet their expectations. They used evaluation as a tool for improvement, and were not afraid of appraising themselves and reflecting on how their own personality and practices affected the team.

I think that SCS can learn from this. The last semesters we have organized interviews with students to evaluate the course. This is a step in the right direction, but should be taken further as a means to improve the course.

It is also a good idea that parts of the ‘middle management’ is elected by students. This can give voice to the marginalized students and ensure more equality between students and teachers.

SCS is increasingly aware of the importance of taking care of the whole person, especially during the building period. To get enough sleep, eat well and have a good atmosphere is important for the motivation and hence the work progress. The national team institutionalized this in a humor team, which could, for instant, surprise a player or the team with waffles, coffee, an excursion, a practical joke, etc. when they felt it was needed.

SCS should also consider the use of rhetoric, repetitions, and metaphors. Sørhaug [2] claims that the power of repetitions is one of the most important and magic techniques for a leader, together with use of metaphors. Something to think about.

References

- [1] «Balansekunst – Ledelse, læring og makt I håndballandslaget for kvinner senior», PhD thesis by Liv Hemmestad at The Norwegian School of Sport Sciences 2013.
- [2] «Om ledelse: Makt og tillit i moderne organisering», T. Sørhaug, Oslo 1996, Universitetsforlaget