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Seven ways of designing

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Abstract

On 18 and 19 November 2015 the Seven Ways of Designing intensification seminars took place. They were attended by third and fourth year students on the Degree in Design at EINA Centre for Art and Design which is attached to the Universitat Autònoma de Barcelona. The sessions focused on solving two problems: the lack of student autonomy in understanding their own working processes, as detected in their degree final projects, and a drop in motivation in third year students as a result of the overexposure to technical subjects in the curriculum. This article describes the seminars and analyses the attainment of the two objectives from a quantitative and qualitative viewpoint. As a result of the evaluation of the students' processes during the seminars a certain polarisation in student autonomy was observed. The surveys show success in recovering motivation. Interviews with the participants show that learning the design process may be linked to the idea of "personal discovery". In conclusion we stress the need to include this kind of seminar in every term in order to monitor student autonomy in different academic years and to maintain motivation.

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1. Introduction

The Teaching innovation group at EINA organised a series of intensification seminars entitled Seven Ways of Designing, with the aim of solving two problems detected in evaluation sessions during the 2014/2015 academic year. The first problem is related to the lack of student autonomy in managing their own working processes, which is seen in the excessive dependence that they have on their tutors for working on their Final Degree Projects. The

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second problem is related to a drop in student motivation in the third year as a result of an accumulation of technical subjects in all the curricular pathways, along with the constant repetition of that content.

This article describes how the seminars were organised to achieve the objectives and proposes a research methodology to evaluate the results separately. As well as an evaluation and weighting of student autonomy we also carried out an analysis of the resulting degree of motivation. Although we could assume that autonomy and motivation are inextricably linked this study does not focus on that link but on its presence in design teaching and professional practice. In future seminars we will be able to contemplate the relationship between the two as dependent variables. We begin by delimiting the area of study of the design process, the place occupied by autonomy and the ways in which to motivate students through practice.

2. Design as a process

To place it within the framework of study in the design area of knowledge, autonomy is defined as an intrinsic element of the decision-making processes that constitute design (Huertas, 2015). Professional designers have to be able to take decisions with autonomy, whatever their role in the studio or agency where they work. So much so that it is impossible to practice design without having a competent degree of autonomy.

The study of design processes has been used for many years in optimising both technical and human resources applied to design. In modern industrial production planning is essential and that involves not only what can be decided *a priori* with respect to the anticipated results but also analysis of the decisions taken in past projects which may have repercussions for improving the conditions of future projects. (Font, 1999, p. 149)

We have linked the design process with the project as an autonomous element, an agent for introducing changes in the area and to the designers themselves. The project triggers a certain metamorphosis in the author, causing the author to assume each individual role. (Bartomeu and Rofes, 2013. p. 268)

In terms of both technology and people, Design Technology has and continues to constitute a living branch of study which is currently undergoing profound changes. This was made possible through the use of laboratory protocol study experiments that were in many senses far removed from the reality of everyday design practice (Cross, 2011, p. 115). Despite the fact that methodology is a design speciality, in the undergraduate pathways it is not offered as a subject for study but is worked on transversally through the allocation of projects. We understand that in the context of the seminars we cannot talk about methodology or design method, but what we will study is the design process undertaken by students in carrying out their projects.

In the Final Degree Project the problem detected lay in the lack of student autonomy, understood as the difficulty in managing their own working process. Specifically, the average student delegated their decision-making, generating an excessive dependence on the teacher who ran the risk of interfering with the student's Project. So much so that the student's responsibility to establish a balance in their relationship with their teacher is intrinsically defined. (Huertas, 2015)

We therefore think that working on different ways of doing design and offering students a range of resources to face different working processes will make them more autonomous. By letting them find out the range of available possibilities we are bringing them closer to the world of work. To do so we make them participants in seminars led by different designers to put certain ways of working into practice.

During the seminars, students have to take on different roles to gain an immersion in the processes involved. The immersive and empathetic methods that are habitually used in design and in theatre provide designers with tools to improve their understanding of the problems in context (Gamman, Thorpe, Malpass and Liparova, 2012, p. 172). The idea of the seminars was to condense that context into two days and therefore achieve greater immersion. In terms of how they work, the seminars present a disruption to the constant sequence of classes and this, like a change in musical rhythm, or in the intonation of a voice, generates a moment when the students pay attention.

The theme Design Thinking was chosen because it presents a paradigm of design where research, the generation of ideas and their implementation possibilities cannot be separated. They constitute an iterative process which genuine principles which fit in perfectly with the seminar days. (Drucker, 2011, p. 69)

3. Intensification seminars: seven ways of designing

As explained above, the seminars were designed as sessions for reflecting on the way design projects are carried out. The intensive format offers the required level of immersion for looking deeper into the topic and the interruption that is necessary to provide motivation. Despite being aware of the huge number of different ways and types that exist we selected seven of them. We were able to show them during the seminars thanks to the leadership of different professional designers who made them practicable, together with the processes, techniques and strategies for working.

3.1. Structure of the seminars

The first way of designing occupied the whole of the first seminar, which lasted five hours. It was led by Cristina Bustillo, Marc Garcia i Fortuny and Itziar Pobes. The first contribution showed a series of techniques to help and force designers to constantly ask themselves questions and answer them –for example Brainwriting, Guerrilla research, Empathy map, User journey, Ideation Question, What if, Early Prototyping–. Later the solutions had to be prototyped and this forced students to ask themselves new questions and re-think the decisions that they had made. Finally it also offered a new field of design.

The second seminar was shared by six professional designers from the different specialist areas taught at EINA. We asked the designers to describe a case study and explain the processes involved. Afterwards, they had to develop a strategy to put the process into practice and define the task “design a play/game tool” based on their personal interests. Finally they had to put the idea from the workshop into practice with a group of thirty students.

The designers were Javier Royo, Igor Urdampilleta and Albert Guerra, both from Arquitectura G, Martín Ruiz de Azúa, Jaume Mendieta, from the Luki Huber studio, Javier Arizu and Lluís Nacenta. They presented different cases involved self-commissioning as a process itself, manual thinking, series of design problems and design solutions, and the personal process as a minimal intervention.

3.2. Learning outcomes

Each student received a tube containing their working material and the requirements for delivery. They delivered the service proposal from the first day and the play tool from the second. Each proposal was accompanied by a reflection form on the process carried out.

All the information was included in the work tube, with the forms filled in and accompanied by everything that the students thought was necessary to show they had correctly understood the exercise.

The results of the evaluation of these seminar days formed part of the continual assessment for the third year Projects course and also the fourth-year Final Degree Project for the degree in design.

4. Methodology and results

The autonomy and motivation of students was monitored using quantitative research methodology based on the evaluation of the learning outcomes and the distribution of satisfaction surveys. The results also included interviews with representatives of the groups involved (students, designers and support teachers/coordinators) in order to obtain qualitative data (surveys, evaluation and interviews can be found at: <http://www.designprocesses.org/prospective>).

In the evaluation the autonomy of all participants (105) was measured with a single competence and three levels of achievement: incomplete (1), literal (2) and autonomous (3), considering the highest level to be the only one that reflects the freeing of teachers from student oversupervision. There was also a space for the evaluators to propose a new level of measurement, if they thought it necessary. The evaluation was carried out intensively by teachers familiar with the event with a prior explanation of how to apply the evaluation criteria.

In the anonymous survey the motivation of 51 participants was measured in four questions, one of them a control question –survey was optional, so we measured results among 48.6% of the seminar participants–. The first two measured student motivation towards the content and presenters of the seminar from 1 to 5 (Likert scale). The third

measured motivation with respect to the processes (which form the real content of the seminar). Finally students were asked if they would repeat the experience and at what interval. The questionnaire was completed with technical elements related to the centre (evaluation of the space, teaching, etc.) and there was a blank space for students to record positive and negative aspects of the experience.

The interviews with representatives involved was semi-structured, using four questions about the experience in relation to a motivational activity and the practice of the autonomous design process.

4.1. Results

The mean score obtained was 6.64 (see table 1), which corresponds to the “literal” range, where students apply the process that they have become familiar with without introducing any variations. The mode was 8.3 indicating a tendency of attraction towards autonomy with 14 excellent learning outcomes, 6 of which achieving a score of 9.96.

Table 1. Evaluation results for learning outcomes and satisfaction survey related to motivation.

Evaluation Variable	Value	Motivation Indicator	Absolute value	Relative value	Percentile
Mean	6.64	Useful content	3.5	7	70
Mode	8.3	Stimulating conductors	3.24	6.49	60
Minimum score	1.7	Non-stimulating processes	2.98	5.96	50
Maximum score	9.96	Would you repeat the experience?	44	86%	

In terms of percentage, students unable to follow the processes represented 8.5%. Those falling into the “literal” range were 47.6% while students who achieved a score of autonomy “independent” represented 45.7% (see Figure 1, section A). Taking into account that the level of “literal” is not high enough to define an autonomous design process (significance score of 6.67 in the table above) the results indicate that we have almost the same number of student able to carry out a Project alone as those who require the supervision of a teacher.

If we classify the results obtained on the scale of highly insufficient (2), insufficient (4), good (6), very good(8), and excellent (10) and distinction the figures obtained in Figure 1, Section B are obtained.

As for the results of the satisfaction survey we can see the absolute and relative results in Table 1. For indicators of motivation the index for motivation by content lies within the 70th percentile. For motivation by the presenters the result is in the 60th percentile and for processes it is in the 50th percentile, confirming our initial suspicion that processes as a topic area are not identified as legitimate elements of a syllabus. The response should have been the same as in motivation by content (70th percentile).

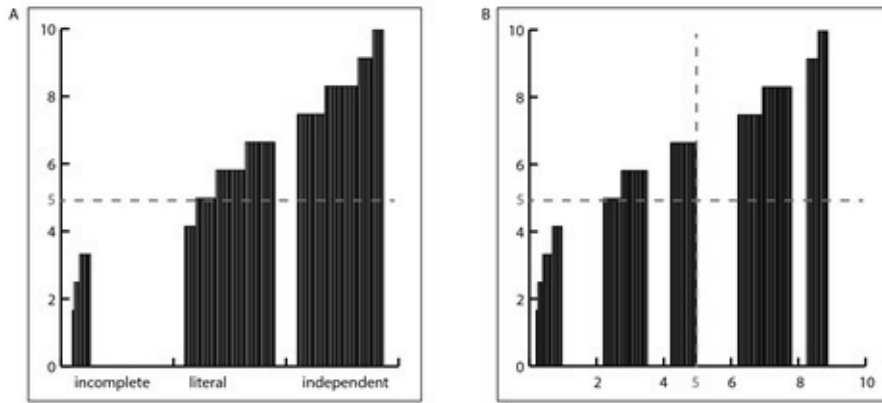


Fig. 1. (a) Learning outcomes according to levels of autonomy. (b) Learning outcomes according to common evaluations in the classroom

The transcription of the interviews can be consulted at the link mentioned above but we would like to highlight some points that we had not anticipated.

Working with a clear initial objective demonstrated to students that they can reach a clear design proposal. This experience reduces the uncertainty students when embarking on their Final Degree Projects.

Although this was a two-day intensification activity it would seem that the two days were seen differently. The link between the two days is most visible to the organisers and the teachers than to the students. M.M. identified the first day as a working session with a broad set of topics and a specific result, and the second as a specific topic with a specific result. This reflection ties in directly with that of D.S. (the degree coordinator) who says “It is vital to understand and reflect on your own process. It is like a discovery”.

5. Conclusions

Through the results obtained we can state that students have been involved in design processes. It is clear that the survey showed some confusion in the identification of the process as the content of the seminar. In terms of autonomy there is a polarization of results with practically half of the students depending excessively on the supervision of a tutor. This opens up a path for us to go down in intensification seminars such as the one we carried out.

In terms of motivation the format was the key to mobilising students, as was the change of space, the mixture of agents and the divergence among the processes presented.

Finally we have seen how one Final Degree Project student obtained a personal benefit from the seminar through a discovery that she made, based on being able to experience uncertainty and face up to it in a short period of time.

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