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STUDENT WORKSHOP: CREATIVITY IN PROGRESS

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Abstract:
In the paper, a specific example of a Students' Design Workshop that took place at the University of Forestry in November 2018 is considered. The workshop, sponsored by IKEA-Bulgaria, was carried out according to an established routine and was guided by a team of teachers and designer professionals. The progress during 5 days of all 6 teams was followed. Pictures were made and presented in tables for all design stages; success and failures were witnessed. Group dynamics was researched by observing the process and recording participant journals. A questionnaire filled in after the end by all participants, provided respondent answers, to show students' views of the event. The paper aims at recording difficulties in group work, in concept development and in teacher-student interaction and turn academic attention to more practical assignments.

Key words*: design education; workshop; group work; product design; furniture design.*

INTRODUCTION

Practical-based design learning is an issue, very much published on. Janice Whatley gave the following definition of Project-based learning: "a form of constructivist and collaborative learning, allowing several students to work together on a problem, and learn from each other as they co-construct knowledge" (Whatley 2012). In previous articles on the same subject the authors' team has concentrated on more general questions, like the reasons for introducing the module, a survey on literature on the subject, and specifically, the group dynamics and the resulting work stages. In this article, a more specific and concrete report on one particular workshop is the aim. The module is implemented at the University of Forestry in Sofia for the seventh year since the beginning in 2012. Each design student participates twice in this module: in his third and in his fourth year of study. The first workshop was organized as an Intensive Program (IP) with European financing with 6 international universities participating in 2005. The objective was to test this new method of teaching in local conditions and to see how Bulgarian students will react. 6 years later, this module became a regular part of the Curriculum. In a number of papers[*], teachers from the University of Forestry published their observations and conclusions from the seminars.

OBJECTIVE

The present paper aims at recordingthe events of a week's study module in November 2018, sponsored by IKEA Bulgaria, with the theme: "Knitwear: from Clothing to Furniture". The topic of knitted furniture was investigated the same year in a paper presented at a conference at the University of Forestry (Raycheva and Angelova 2018). The interest of contemporary designers in textiles (weaving and knitting) and their use for innovative design solutions for furniture and accessories was the main reason for its choice. The expected outcome of the workshop was a design concept for a piece of furniture, presented with drawings, PowerPoint presentations, visualizations and scaled work model. The paper aims at disclosing difficulties in student work in concept development and in teacher-student interaction and give recommendations for more practical design assignments.

METHODS

For this study, the authors used observation, analysis of students' work journals, review of questionnaires and analysis of respondent answers, commentary on design results. Being a specific report,

[*]A total of three papers were published since 2013 till now.

the paper is well illustrated with pictures from the event. All design stages are commented day by day; following the actual design solutions of each team. Conclusions are drawn from the specific workshop, but are representative of the momentary state of educational situation at the University as well.

OBSERVATIONS AND STUDENT JOURNALS

Here we describe the course of the workshop with all 6 teams, by using our observation and their journals. This means we are interested in the way they experienced the event. Starting with the evolution of their ideas, we are following their activity during all 5 days. This is done by following the stages: Brainstorming (Day 1); Sketching of Situations (Day 2), Middle Presentation (Day 3), preparing the Final Presentation (Day 4), and Final Presentation (Day 5).

Day 1: Brainstorming (Fig. 1.)

Brainstorm Instructions. One of the goals set in previous publications, was “to inform all participants with the present findings in the form of ”a workshop 'code' or guidelines before the event.” (Raycheva et al. 2015). The guidelines were prepared, and before the start of the study module, teachers submit print-outs with instructions for each day to every team. Since students seem to forget them, the teacher’s team had to remind them of the goals for each day.

Every team is expected to write words and notions that come to their mind in association with the assignment theme on sticky notes. The actual notes are between 84 and 119 per team. The first associated image (usually granma’s knitting) comes along easy enough, but the next one in the chain is harder, as well as linking words with images. It may be that students encounter this technique for the first time: it is a situation largely different from routine. Most of their semester study assignments include preparing drawings of already existing types of furniture.

The beginning of brainstorming is difficult for the following reasons:

- Bad handling of total uncertainty: “What do they (teachers) want from us?” The theme is not enough to get them going;
- The presentation, that IKEA representative gave, only additionally confused them. It concerns the emergence and development of the company, and is not, as students think, a direct list of requirements for their products;

During brainstorming, lists of materials, properties, form-building details appeared with the aim to immediately reach a product.

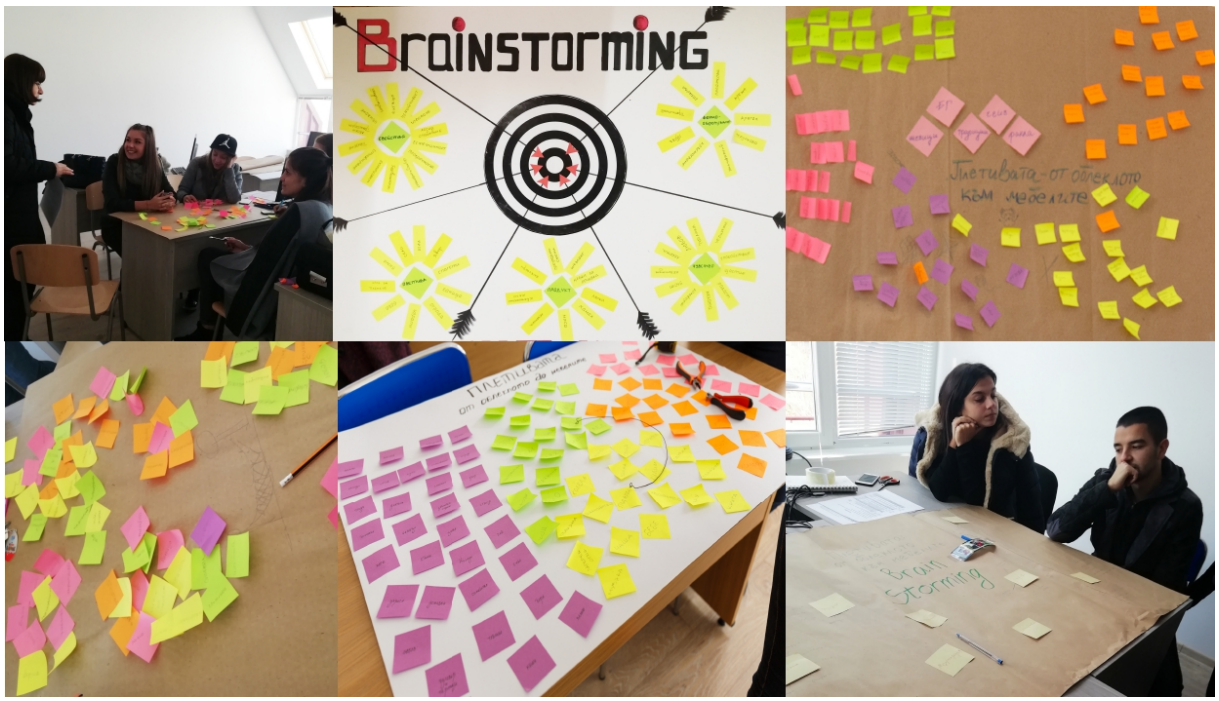

Fig. 1.
Brainstorming results.

- After brainstorming, an insufficient number of notes are produced. As it turns out, 100 sticky notes were too much.

- Teachers gave the idea to students to visually produce images that come out of thinking of "knitwear", but this is not their strong point. They wrote "warmth" and stopped, thus breaking the association chain too soon.
- Students tried to guess what the teacher team wants, not what the image leads them to.

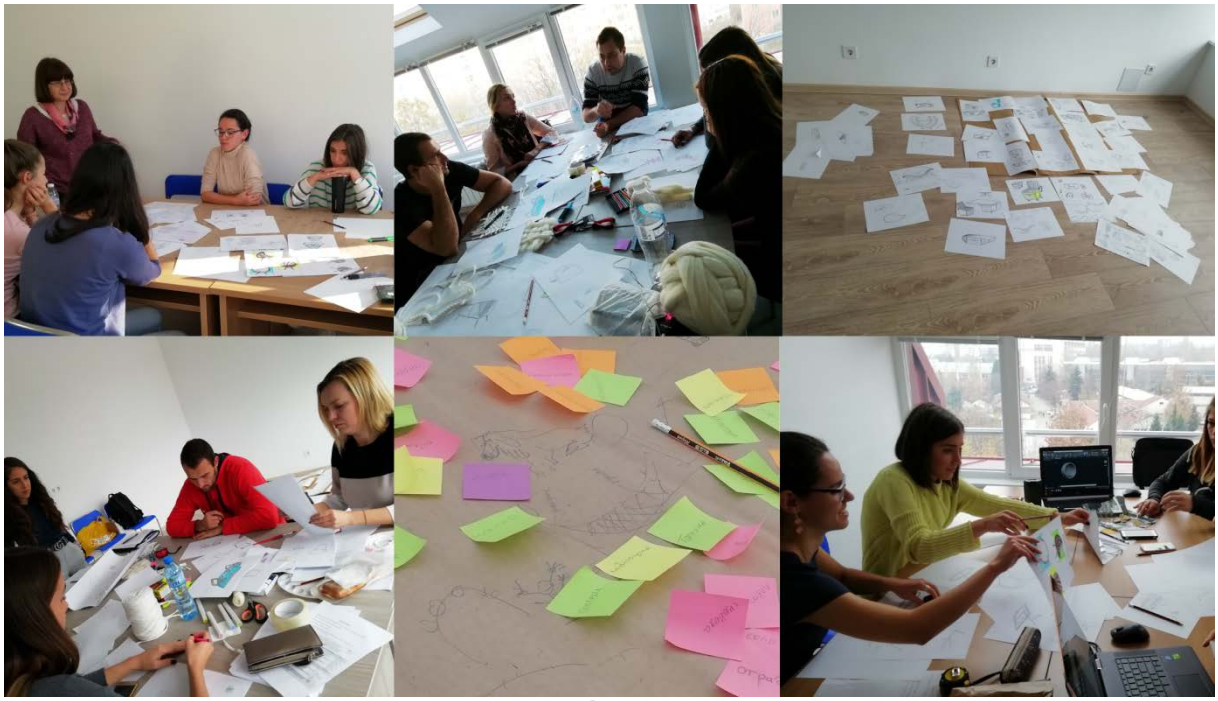

Fig. 2.
Student's sketches.

Day 2: Sketching Situations and Not Products (Fig. 2.)

According to Rumanian colleagues, "Observing, (…) sketching and making notes is the method of research and starting point of further design process." Olărescu A., Th.Gronegger, B. Bartha, M. Cionca, I. Muscu. (2018) Here are our sketching tasks for Day 2:

- The progress from 'notions' to 'sketches' is difficult. The teacher team had to interfere at certain places, and make simple sketches. A typical blockage of thinking appears. No ready solutions are possible, no textbooks exist. The failure of brainstorming badly affects this stage.
- An attempt to push a leader opinion was obvious with 3 teams. Products were already sketched and launched as team ideas. Where all members have given up leader ambitions, they directly accepted one image and developed it.
- The stage "sketching situations" is very difficult or is identified with brainstorming, students try to choose one product straight away;
- Here are some good generated images: 'the cactus', 'the yarn ball with needles',' the spaghetti bowl' and 'the bird nest'.

Day 3: Interim Presentation (Fig. 3.)

Free from the pressure to create a product, students enjoyed the Interim Presentation. Teams can be grouped in two:

- The ones who developed a single idea (yarn ball, bird nest, the spaghetti bowl, the cactus);
- The 'conformist' teams developed ideas that were 'pushed through' by the leader; e.g. a cupboard with a 'sewn door' reappeared, but included this time in a modular system with a bench. Another team developed a container coffee table, with an extendable top; this was the result of inner fights ('we'll make my product').
- A hidden spying of competitors emerged before the Interim presentation ('ninjas', according to one Journal). Fact is, the Final Presentation had two teams with Italian names of their products!

Day 4: Before Final Presentation (Fig. 4)

- This is the day when results from Interim Presentation are discussed and visual materials for the Final Presentation are prepared. Models are made; some unsuccessful changes to the idea, shown at the

Interim Presentation have turned up. Unsuccessful product names were accepted. Scenarios for final presentation are made, posters, Powerpoints and Journals.

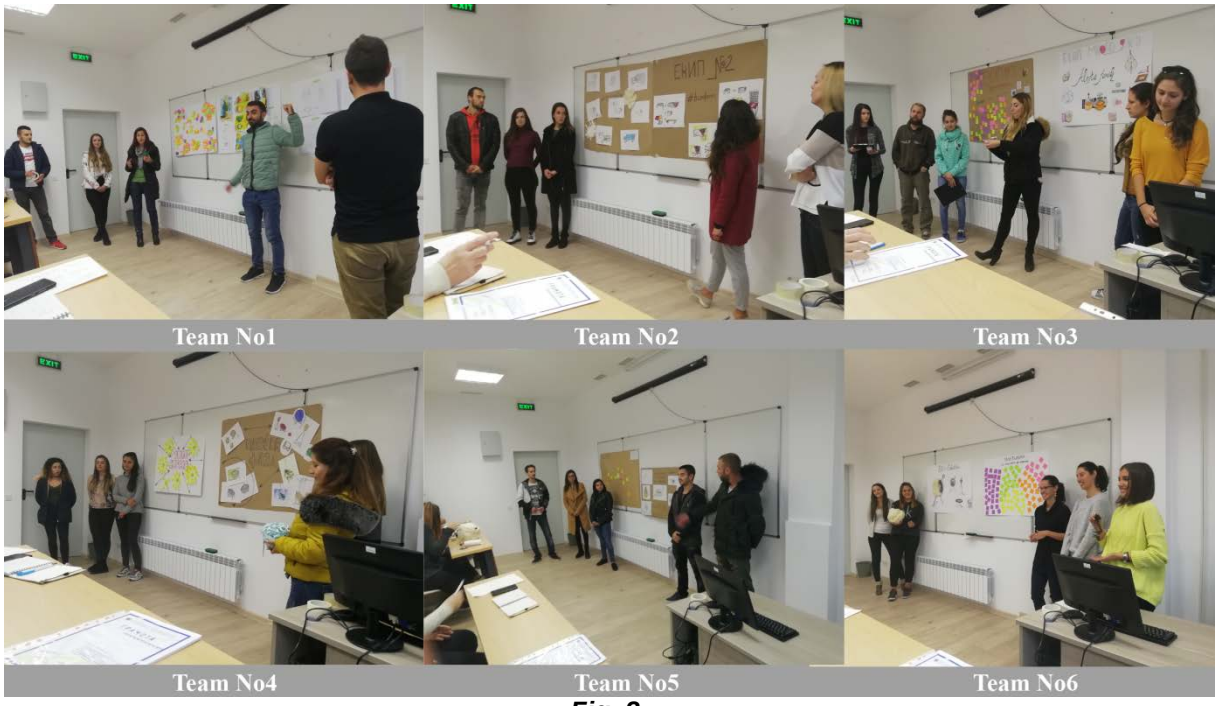

Fig. 3.
Interim Presentation: Free Minds did Better Work.

- In spite of the efforts of the teacher team, some students reject the proposal of the guest-designer, and the final results proved they were wrong. It seemed more a matter of lacking design experience than an unskillful attempt to 'push through' someone's idea. The concrete case was the 'yarn ball': the guest designer proposed three knitting needles to serve as a steady supporting structure; students decided they like better a single needle plus another broken in two. The 'spaghetti bowl' was also a failure: all white at Interim Presentation, it was shown with poured 'tomato sauce' at the Final Presentation, for a misunderstood realistic effect.
  - The need to produce a model and other presentation materials calmed down the tension: after the division of tasks there was work to be done.
- One fact: in the process of development, the original assignment task, namely, knitting was somehow lost. One team (the folding coffee table) was so much concerned with their multi-functional idea that the element of 'knitted' net got almost lost.
- It is curious, that almost no one knitted anything (one or two teams used braided wool); thus the basic potential of the theme was dissipated.

Day 5: Final Presentation

- The Final Presentation was not reflected in the journals, since they were prepared before Day 5.
- Clearly, fatigue was noticed, a desire to finish all this.
- All final presentations were good, but one team's presentation was really memorable.
- The prizes brought certain disappointment for the most ambitious team that remained with the "prize of the audience".

Teams and Their Journals (Fig. 6.)

- Not all students made the effort to describe the difficulties in their journals; in fact some were with a rather short text.
- Team 1. A happy combination of personalities, without fight for leadership or 'pushing' up ideas, fast generation of the original image. The team had 'a painter' to depict the generated idea, another could evaluate its potential and maintains it, third one has made the model, yet another one was knitting, the fifth one was a good actor for the presentation. Work division was well achieved, with their basic rendering technique using a tablet, the model and acting presentations. The team won First prize.

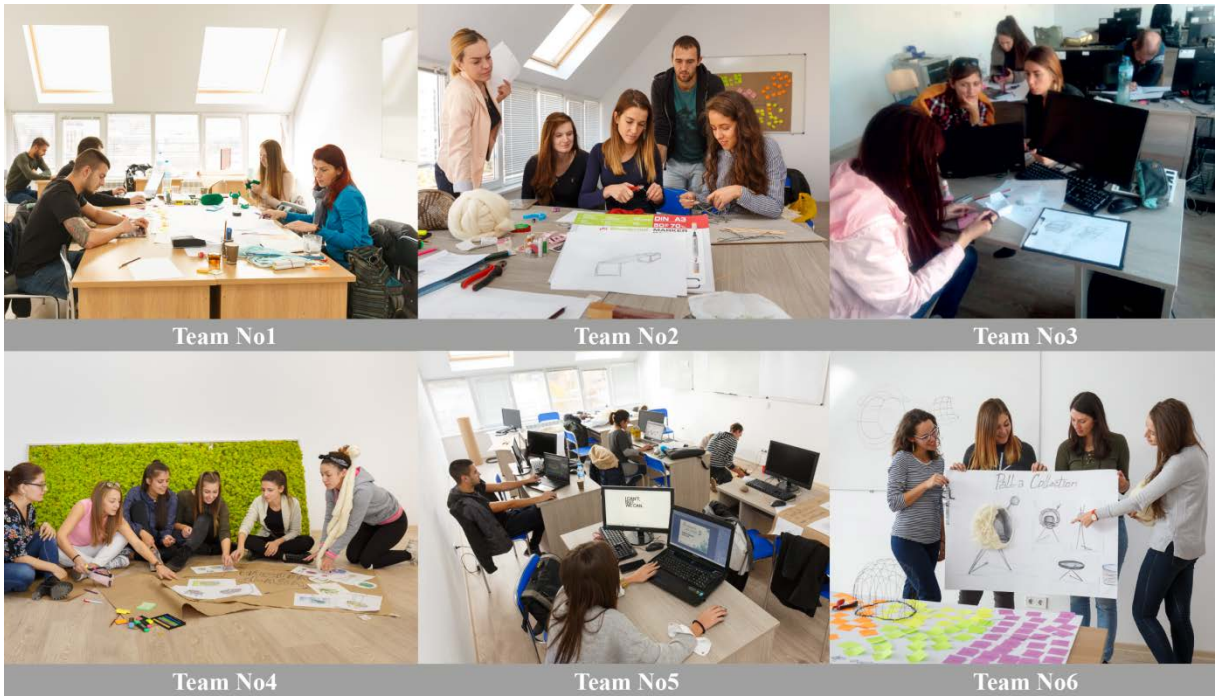

Fig. 4.
After Interim Presentation.

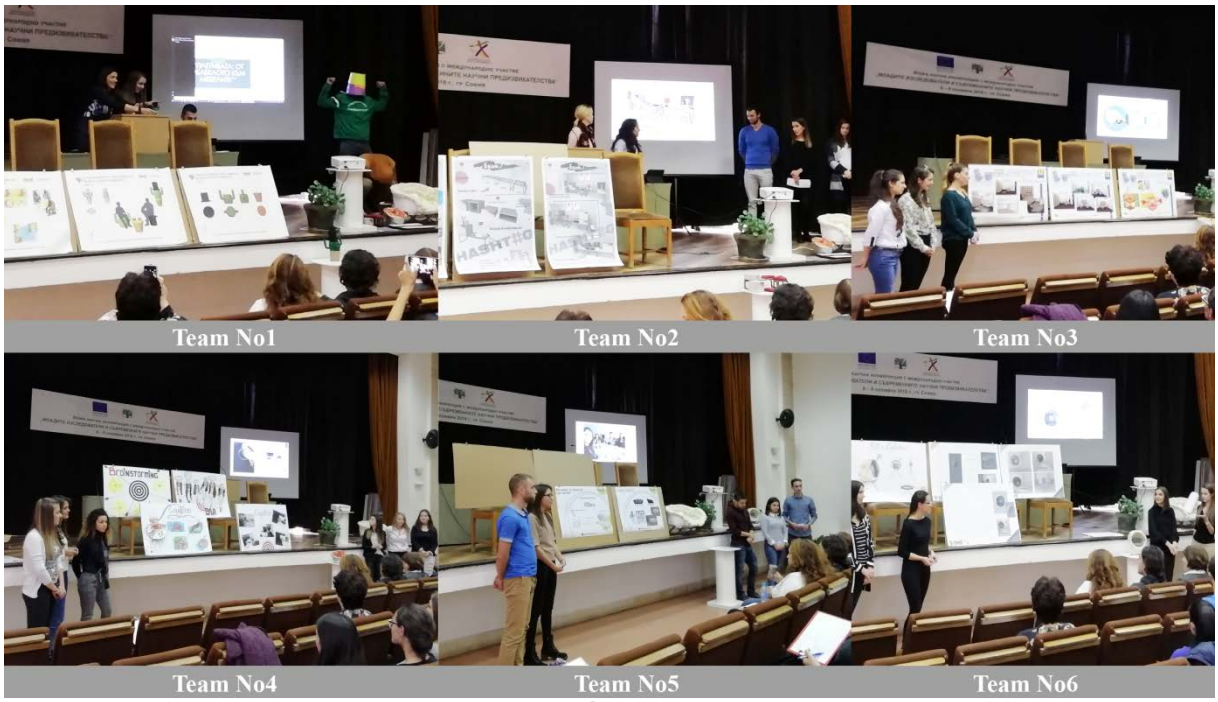

Fig. 5.
Final Presentation.

Team 2. There were some difficulties for this group, namely two leaders emerged. The first and second day, many good drawings were not evaluated; finally a solution was used that was familiar from the press; this one finally got presented. There were other ideas (a sofa). It was on day 3, Interim Presentation, after some arguments, that two ideas were combined into one 'system', which was not very well and convincingly presented. The 'second' leader was able to manifest his skills in bringing instruments and making the model. Second prize.

Team 3. A very detailed journal was presented and work was well divided between team members. The first days, team 3 manifested insecurity, expecting criticism by the teacher team. The product they came

up with was a multi-functional coffee table, used as a container. They were impressed by the other teams at the Interim Presentation; and were not concentrated in their own work. Finally, they managed to intensify their work and make a final presentation. No prize.

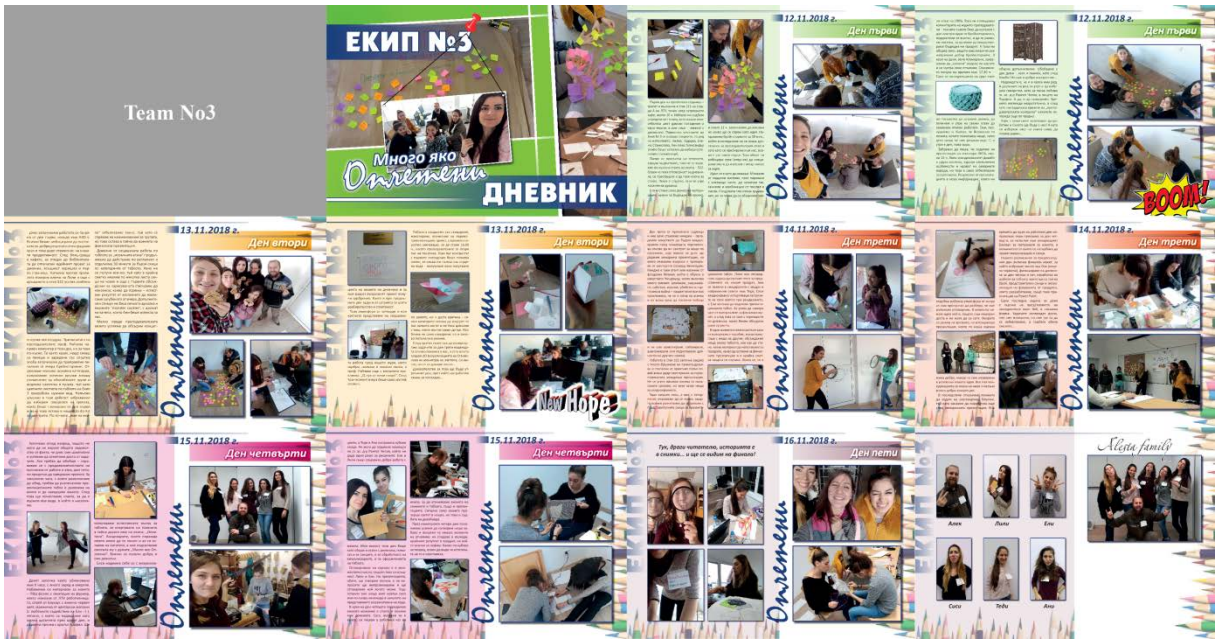

Fig. 6.
Student's journal.

Team 4.This was a larger team (6 instead of 5 participants). It is possible that there were contradictions between the members; this could be noticed during consultations. The team generated the original idea with the help of the teacher team. In the final stages, the product was given a unsuccessful Italian name that practically made no message to the audience. They chose a spaghetti bowl; sadly, they added "tomato sauce" at the end and annihilated the final effect of the armchair. Their best achievement was the Interim Presentation, where the bowl was a bowl, and spaghetti was spaghetti. The team was not aware of the value of this working model, and changed it for the final presentation; the Italian name they gave did not help in any way for the presentation of the idea.

Team 5.The submitted journal had almost no text, just short captions under pictures. This team, though, was effective at generating the original idea of a bird nest. With further development of the idea, the 'nest' lost its original power: from a 'love seat', it was enlarged to a sofa, and the idea was dissolved. After the 'enlargement', the nest was not a nest anymore. The team was motivated, had a leader, worked together and had a moto for each day's page of their journal. They had problems with the design: the sofa's legs were a metal net; teachers told them that branches sticking out were a better-fitting idea for the nest image. They were just a little short of a final effective solution, although the model was a good one: the surface of the sofa was braided, and this complied with the assignment. Third prize.

Team 6.They started the brainstorming with long lists of abstract notions; no images. The second day, they started sketching, and quickly turned to products, because they already had lists of products. A definite leader emerged, a strong auto-censure was a fact, they had a strong ambition and definitely were heading to a prize. After they created their product (an armchair in the shape of a ball of yarn), their basic mistake was the design of the legs. The teacher team proposed a base of three knitting needles; the team kept their first idea of one needle and one bent needle, but the final solution was not convincing; an almost certain prize was lost. No prize.

SUMMARYOF STUDENT QUESTIONNAIRE ANSWERS

Questions of the survey (30 question in total) could be roughly summarized in three categories: the assignment; the team work and the team dynamics and the educational aspect of teacher consultations.

Considering the difficulties in complying with the assignment, 61.3% think that the theme is interesting; 35,5% have no opinion, and 3,2% consider the theme to be complex and not specified. 93,5% of the students point out that they have understood the assignment; 80,6% believe they have managed the task successfully. 83,9% of the surveyed have noticed a progress in relation to their previous participation in the same study module; 9,7% did not record any progress; 6,5% cannot give an answer.

The group cohesion and team difficulties were easily overcome for 77,4%; 12,5% gave no opinion; for 9,7% this was hard. Students give the following specified positive aspects of team work: creativity and

common ideas (5 students); mutual understanding and good communication (4), effective joint work (4), evaluation of good personal qualities and skills of other team members (3), readiness for compromises (3). Negative aspects noticed were large teams, different views on certain issues, misunderstanding the assignment and not knowing the team members.

87,1% self-evaluate team work as effective, while 12,9% do not give an answer. The positive aspects, contributing for effective team work were: good task distribution (9), united and synchronized group work (8), creativity (5), diligence (3), striving toward victory (1). Although 12 people say there were no negative aspects, the rest note the following: bad communication (3), hard adaptation, team members not included in the work, too many people in the team, chaotic thinking and unorganized design process, unorganized time, difficulty in implementing the task.

As far as obstacles that led to difficult fulfillment of the task are concerned, following answers were given: no such obstacles (5), bad working conditions (lack of heating, lack of Wi-Fi, lack of workspace for the models (7), disorganization (6), lack of communication and discord in the team (4), blocking creative thinking (3), over-fatigue, lack of motivation and self-confidence. Students gave high self-estimation of their own presentations on the design, on the 5-level system from 1 to 5, where 5 is the highest, as follows: 29 respondents gave 5 (64,5%) and 11 respondents gave 4 (35,5%).

Table 1

Evaluation of teacher team

Criterion	Yes	No	Maybe
They give clear directions	67,7%	12,9%	19,4%
They take enough time	80,6%	9,7%	9,7%
Contradictory opinions	25,8%	38,7%	35,5%

The common evaluation of the teacher activities is as follows: 5 – 15 (48,4%), 4 – 14 (45,2%) and 3 – 2 (6,5%).

The overall evaluation of the event is as follows: 5 – 21 (67,7%), 4 – 8 (25,8%) and 3 – 2 (6,5%).

Of the general commentary of students, we can point out the following recommendations: more such practical applied study events should be implemented in the study process (6); designs should be more professionally presented by sketches, good visualizations, good models, professional presentations without acting and deviations from the theme with training in these matters increased during study process; clear criteria should be defined in advance for evaluation; working conditions should be improved (7); expenses of materials and printing should be covered; the event should be better organized; teachers should distribute equally their consultation time between the teams; fully content and without remarks (6).

DISCUSSION

In the described study module, we have encountered the whole range of group work situations, successful and unsuccessful. The number of participants was fixed to 5, but one group had to have 6 people; they could not organize their work very well. Successful collaboration was more the matter of understanding and further developing positive results from Brainstorming and Sketching sessions. What characterizes the success team? Interestingly enough, it was not the one who had the best idea; it was the team that most efficiently evolved their solution to the final presentation. One of the participants in this team was older and with some practice, and was very quick to estimate the potential of the brainstorming findings and to further reduce possible contradictions. This was the basic difference with the other teams, where non-productive arguments have taken place. The conclusion is, students need to be especially careful of teacher advice in the first two days. Cooperation between participants is possible, if they suppress negative tendencies and remain more open to each other and to teacher team.

Another issue is the extent of teacher participation. It is a key moment; especially in the brainstorming phase. From our experience, we have learned that teachers may leave students totally on their own but in this case certain teams might fail altogether in fulfilling the assignment. Teachers may actively participate in the work during the whole time, but must be careful not to be too critical, because this can evoke negative response and/or ‘opposition’. If the teacher team is too controlling, then students will lose their initiative altogether and just wait for instructions. Oddly enough, instructions might be more confusing than the lack of them. Student failures are also due to lack of experience with such modules, where "the individual focuses his attention on direct experience and behaviour", or the so-called "here and now" orientation (Djonev 1996). We can definitely conclude that they need to participate in more short-term workshops. For a 4 years Bachelor Program, they should have not 2, but at least 3 practical modules. Another disclosed fact: product design was far more difficult than their usual interior design assignments, and needed more attention and inclusion in the curriculum. Managing the theme and the respective information was seemingly easy, but

some of the teams were disorganized; constantly losing the goal, and playing a passive role of recipients, not of generators of initiative. Information of already designed products on the Internet exists, of course, but was not checked up. Lastly, the design outcome showed that students did perceive the theme, but were not confident in experimenting with the material itself. “A possible approach for furniture designers is to pick up techniques and ideas from other areas, in this case textile, with which a close connection is observed.” (Raycheva and Angelova 2018) The technique of knitting did not seem to interest participants; it was more the braiding technique that was used. With some exceptions, they did follow the image generation from the brainstorming session; the harder stage eventually turned to be the interpreting of forms and generating product design. This is yet another proof of lack of enough drawing and modelling experience in the study process.

CONCLUSION

The study module was successful for the most part of student teams. The first stages were overcome; the best achievement remained the Interim presentation, where a coherent level of skills by all teams was demonstrated. Later on the lack of experience manifested itself in the design issues in the finishing stages, revealing difficulties in evolving the product effectively. The significance of the study module is both educational and creative. It teaches students self-organization and team behavior and how to reach consent and present a concept. The usefulness consists in bringing students out of the classical routine comfort zone with a slow cycle of design assignments. From student recommendations in the Questionnaire, we can capture directions for the evolution of the module: some students find two modules to be insufficient and feel the lack of rendering skills. In this way, the curriculum needs improving by including more practical assignments in order to ensure readiness of graduates for managing real work situations.

REFERENCES

Djonev S (1996) *Social Psychology, Small Groups (in Bulgarian)*, Sofia-P, Vol.3, p.152. ISBN 954-638-035-0

Olărescu A, Gronegger Th, Bartha B, Cionca M, Muscu I (2018) Non Formal Education in Design Field,Innovation in Woodworking Industry and Engineering Design, 2/2018 (14):3-4, ISSN 1314-6149, e-ISSN 2367-6663, p. 27-35

Raycheva R, Angelova D, Vodenova P (2015) Project-Based Learning in Engineering Design in Bulgaria: Expectations, Experiments and Results. European Journal of Engineering Education, ISSN: 1469-5898 (online)

Raycheva R, Jivkov V, Angelova D, Vodenova P (2016) Study Module “Project Week”: through the Eyes of Students. Innovation in Woodworking Industry and Engineering Design, 1/ 2016 г., ISSN 1314-6149, e-ISSN 2367-6663, p. 46-53.

Raycheva R, Jivkov V, Angelova D, Vodenova P (2013) Design Workshop for Students, Conference Proceedings of the 3rd International Conference “Education, Science, Innovations”, June 9-10 2013, ISSN 1314-5711, Pernik, p. 85-93

Raycheva R, Angelova D (2018) Knitwear: From Clothing To Furniture, Innovation in Woodworking Industry and Engineering Design. vol. VII, 2/2018, ISSN 1314-6149, p. 48-60

Whatley J (2012) Evaluation of a Team Project Based Learning Module for Developing Employability Skills. Issues in Informing Science and Information Technology, Volume 9, p. 75 – 92.