

Competition as an activating tool in architectonic education

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ABSTRACT: Competition is an inspirational factor in education, which can have a positive or negative impact. Therefore, it is necessary to set the correct atmosphere to allow for creativity, and the application of knowledge and skills. Competition as an educational tool in architectonic education is dealt with in this article. Competition is related to comparison, which is a part of everyday life. Competition can be characterised as necessary for schools oriented towards creative subjects. The Faculty of Architecture in Slovak University of Technology in Bratislava, Bratislava, Slovakia, belongs in his category and a proper dealing with competition helps it compete with international universities. Competition helps prepare students for subsequent professional practice. A competition-oriented environment starts at university and is necessary to prepare students for the real world.

INTRODUCTION

Psychologists claim that competition is an important quality associated with high achievement. It is necessary to understand competition in the school surroundings as a positive motivating and integrating factor, and not as a threat. Indeed, regarding competition as an activating behaviour helps to model relationships. The European Commission refers to the benefits of competition and the preparation for competition in education [1]. The aim is to see competition as a qualification and motivation for life-long never ending education.

Competitiveness of the 21st Century's economy is based on creativity. Hence, creative human resources have become a key concern to education and industry [2].

QUALITY, ACTIVE EDUCATION AND COMPETITIVENESS

Further Education Links with Innovative Methods

Primary and secondary school education prepares students for further levels of education, and hence quality is important at all levels. Studies show that teachers at schools where there is a high percentage of students accepted for further education appreciate innovative education methods and co-operation with other institutions. At these schools there is a co-operative, friendly, but also a strongly competitive atmosphere [3].

However, at higher levels of education there is also low motivation among students. This attitude of students to study is characterised by Platková Olejárová et al [4] who opines:

...We have a new-age student who wants to get a degree, does not want to get knowledge, exceptions are honoured...

This weakness is the biggest problem in higher education. The relationship between a teacher and student is an important influence on the effectiveness and quality of education.

The traditional understanding of education has the student cast in a passive role with a dominant teacher, and student as listener and note-taker. This is still common. Active education, by contrast, maximises the engagement of the student using a wide range of sensory apparatus, e.g. vision, sound and animation [5].

Information is acquired through engagement rather than passively - once shown is better than a thousand times said [6].

Active Learners Create and Influence

Essential to facilitating active learning is the creation of suitable surroundings. This allows a student to be an active creator of their own knowledge, but also to influence others. Bonwell and Eison define active education as activities involving students in different activities and motivating them to thinking about these activities [7].

Competition is a characteristic of an active system of education affecting both the efficiency and the teaching method. Methodology is considered by many authors, and often illustrated graphically e.g. knowledge pyramid, triangle and Dale's diagram - *cone of learning* [8].

The closer the teaching method is to real life the more efficient it is. This suggests modelling real surroundings, conditions and situations, so a student can become an active participant in real activities or a simulation. For interactive simulations, a term inspired by IT is often used, so called *applets* - meaning *small applications*. Educational simulations date from the end of the 1960s.

Inquiry Based Learning and Thinking Freely

Another suitable learning method is inquiry based learning (IBL). In this, critical and logical thinking with consideration of alternative explanations using scientific inquiry enables learners to construct knowledge, to develop high level reasoning skills, and to increase interest and learning motivation [9]. The main purpose of university education is the education of specialists able to think freely, to analyse, to make informed decisions and be competitive [10].

Student learning is not just about stating the facts, but also to think independently and present thoughts without fear, worry or stress [11]. This can be enabled by the active engagement with a simulation of competitive surroundings.

The next suitable method is functional analysis and the heuristic method of the Fustiers (Michel and Bernadette Fustier, writers and language teachers oriented on invention and creative methods). This latter deals with real problems and their systematic solutions, while minimising false solutions. It requires a creative attitude, the evaluation of ideas and the development of critical thinking in an atmosphere of competition. It is a method where students appreciate their work and learning by realistic practice [12].

There are also opinions, e.g. in the Washington programme of Richard de Charms 1973, where there is an effort to suppress competition and develop student co-operation during class. There can be fear of competition, and this is typical at primary and secondary levels of education. This alternative can be successful, if the system is built on co-operation and at the same time takes an individual approach to students who are trusted and take responsibility. This is the experience of Finland, which is famous for well-developed, effective and quality education [13].

FORMS OF COMPETITION

Competition and Comparison Differ by Subject

Competition affects various areas and levels of education. But questions arise - how to achieve competition in methodologically different subjects; how to encourage competition without negatively affecting students by becoming discouraged or demotivated. Healthy competition without negative consequences is required leading to quality outputs. Competition and comparison are natural for people, including in schools, but will differ by subject, because of different content.

In terms of universities, competition can be seen on a number of levels:

- among schools, faculties and universities;
- among individual teachers and among groups of teachers;
- among individual students and among groups of students.

Success and prestige of a university is measured in various ways. There is inter-university *competition*, which reflects competition between universities in education and science. This implies a comparison of the quality of education and science, but quantification of this comparison is not simple and focuses on evaluating the number of successful students and graduates; on publications and the output of teachers. The aim to keep a university at the required level means to compete in a strong competitive environment.

The potential of quality education is appreciated by politicians in developed countries. *We cannot cut education and can't cut the things that will make us more competitive*. It is important for increasing the competitiveness of educational institutions [14]. This involves pedagogical workers and students acting as one balanced unit and working in all relevant areas.

What is the product of education - is it knowledge or graduates? A piece of knowledge is the result of scientific work. Scientific work is necessary in the process of gaining, refining or adding new knowledge, thanks to which a university gains credit and also generates graduates - a product of pedagogical work [15].

Competition is connected to Activities and Results of Teaching

Competition at a university level is connected with the activities and results of teaching. Competitiveness of pedagogical staff can be characterised as a healthy ambition. Teachers' activities are more focused in smaller teams based on a thematic orientation, e.g. institutes and grant projects.

In schools, it is necessary for a teacher not only to teach, but also to perform activities connected with personal growth and development. This is a characteristic of a quality teacher, which contributes to the education of young specialists. Competition between individuals and teams *raises the bar* of achievement as there is an effort by individuals to match colleagues in the workplace, and for teams to match other teams in other workplaces.

The absence of competitiveness in students is remarkable, and is also true in architectonic education. Nowadays there is an emphasis on team play rather than the individual, with the whole team multiplying the work of an individual. The same phenomenon is apparent in education.

The advantage of the competitive method in architectonic education is that the main presentation output is visual, which aids comparison and evaluation, since a visual presentation is understandable to specialists and non-specialists alike. This creates a basis for national and international competitions between individuals, groups and schools. It creates a platform to frame the results of education and students' work. Students need to take into account that they will often be forced to educate themselves [16].

Education of students for professional practice means not only to acquire the skills and knowledge, but also to be ready for a competitive environment. What does this mean for individual subjects and groups of subjects? The answer guides the education for groups of subjects with different characteristics.

In education, it is important to perceive competition positively with an accent on setting competitive tasks, so that students anticipate progress and growth without stress. Competition can be used for subjects with a variety of teaching methodologies [17].

COMPETITION IN SUBJECTS

Subjects with Creative Content

Subjects with creative content, e.g. design ateliers, naturally include competition. Destiny is not to be passive and submissive rather it is natural for a person to be active and interested [18]. There can be natural competition in individuals and subjects.

The works of students on the same or similar tasks provide a basis for comparison, and hence, competition. The next level of competition is to seek out and verify common concepts. Assignments for studio design courses often provide the basis for student participation in competitions, which proved to be highly popular with teachers, as well as students. They offer the opportunity to extend the standard solutions to design solutions that require a more sensitive approach [19].

The comparison of students' output at presentations and exhibitions determines the character of the competition. Students gradually accept competition and competitive surroundings. This way they are prepared for *pitfalls* that they may meet in later practice.

Chris Albrecht observed ... *we understand very well that the biggest obstacle of our success is our own success* [20]. Success, even if limited, moves a student forward, not to be satisfied and not to stand in one place - this relates to competitiveness.

If something good is done, then it is natural to compare it with others and to compete; this is stimulating and not frustrating. Special consideration should be placed on project-based learning that introduces the students to professional engineering practice by providing them with an opportunity to work on open-ended engineering problems [21].

Technical Subjects and Creativity

Simple technical problems lead to technical solutions produced with some competition and limited presentation. Solutions can be studied by students and presentations put the student into the role of a teacher, by initiating discussion and evaluation. Students' interest in learning and a teacher's instructional attitude both have a significant interactive influence on the learning outcomes in colleges [22].

Managing talent by a teacher guiding students with mutual participation in solving a single problem together with learning from each other involves strong competitiveness in teaching. A student in a role of a teacher is a higher level of the Dale diagram mentioned before, with the base of a pyramid representing their knowledge.

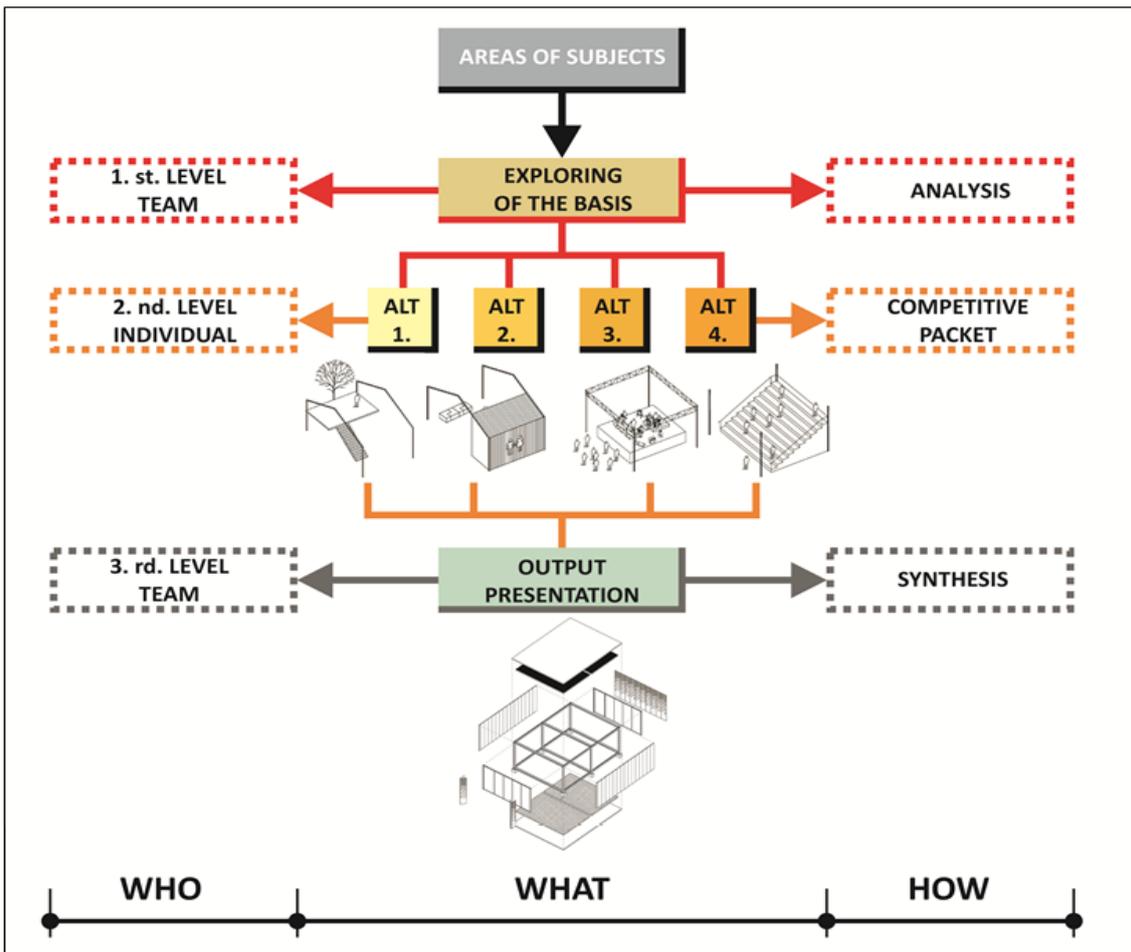
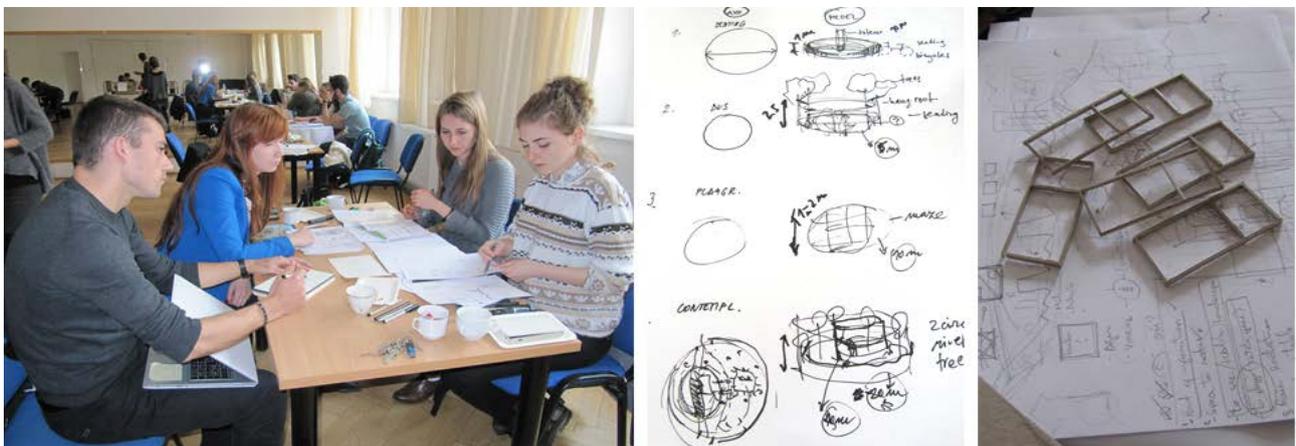


Figure 1: Problem solving and competition.

A technical problem and solution could be involved in a competition, without altering the course or its aims (see Figure 1). This alters the view of the problem. It is important for a teacher in tasking the problem to cover the content of the subject and the competition. This is exciting for students who like to be involved in competitions. They can see the purpose of the subject and do not perceive the competition negatively. Students may work in groups, which promotes purposefulness and motivation (see Figure 2).



a)

b)

c)

Figure 2: Team working (Photographs by the authors).

There is a saying ...*the more eyes, the less flies...* or the more heads, the more sense. It is a reason that teams work well, and hence working in a team is a phenomenon students have to get used to, if they are to learn [20].

COMPETITION IN EDUCATION

Freedom to Develop, Create and Innovate

Arkadij Kuhlman suggested ... *If you do something in the same way as all the others, why do you think that you will create something better?*... as a means to encourage competition in searching for solutions to problems. It is important to have the freedom to develop, create and innovate in a purposeful manner to compete successfully with others.

This is also essential in school or university education. Design thinking is changing the way some academics approach teaching and research. Design thinking as a process is also employed by engineering designers [23].

It is important for teachers to encourage students with provocative questions, e.g. is it different, original, good? Is it useful? People should not be overstressed, but rather full of confidence [20]. However, an appropriate level of stress is also a motivation for self-growth and progress.

Dealing with Stress

Stress, as presented by Ying et al can also have a negative impact and can be evoked by situations, such as stress from unfulfilled parental expectations; stress from own unfulfilled expectations; stress from teachers' requirements; stress caused by own bad time management; and stress caused from disturbances by classmates [24].

Students should be impassioned about what they do and what they achieve. An individual's effort and motivation derives from deep inside and in subject assessment the mark is not as important as their own feeling of meaningfulness. If someone tries hard and works well, also preparing responsibly, competition does not disturb.

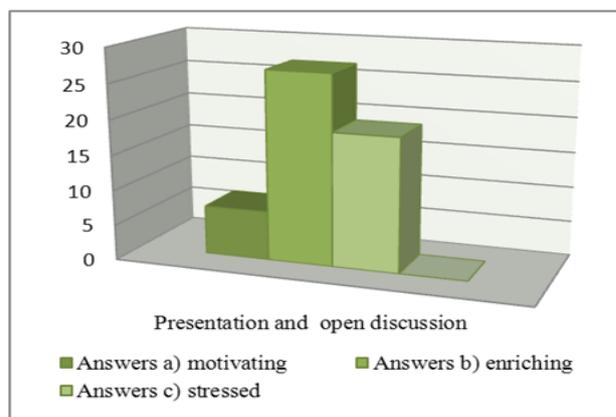
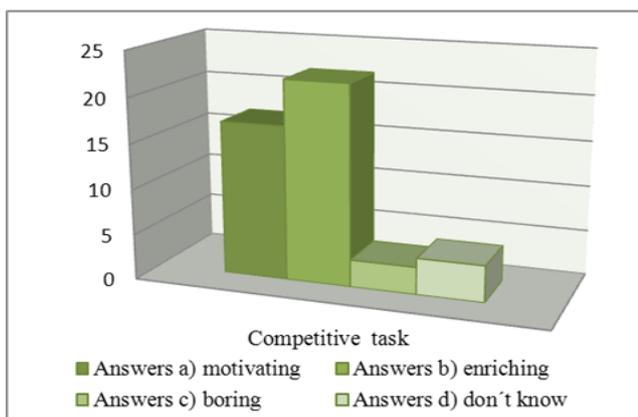
Work with students and student teams should involve setting new challenges. Praise expressed the right way is an important motivation. It is important to praise without ceremony, for effort and strategy, and not for inborn qualities. Praise is generally motivating [25].

STUDENT SURVEY REGARDING COMPETITION

Research was undertaken to assess the effect of competition on teaching, and it yielded positive results. Students discussed and evaluated the CES (competitiveness to eliminate stress) method as follows (see Table 1 and Figure 3).

Table 1: Responses to questions re competition, presentations and discussion.

Question	Evaluation - answers				Number
	a) Motivating	b) Enriching	c) Boring	d) Do not know	
Competitive task	17/37%	22/48%	3/6,5%	4/8,5%	46
Question	Evaluation - answers				Number
	a) Motivating	b) Enriching	c) Stressed	d) Do not know	
Presentation and open discussion	7/15%	27/59%	19/41% 7/37% - overlap with b)	0	46



a)

b)

Figure 3: Responses to questions regarding competition, presentations and discussion.

The key points drawn from the results of this research are:

- competitive tasks are: motivating - 37% and enriching - 48%;
- presentation of work and discussion is: enriching - 59% , motivating - 15%;
- stress factor was 41%, although 37% of students mention the stress, but presentation and discussion also have enriched them at the same time.

The final point is important in forming the student's personality in the workplace.

CONCLUSIONS

Active education is a part of modern, quality education. A teacher needs the ability to innovate and modify teaching methods in response to changing situations in the workplace. Actual practice requires a person able to face different difficult and stressful situations.

Success in academia can be enhanced by the CES methodology, which leads to good and competitive results. Competitiveness based on team work is co-operation-oriented with a common sharing of activities from problem identification to solution to presentation. It is the team work which helps to remove individual stress.

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