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WOOD TURNING

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Abstract: *The article deals with wood turning technologies in relation with project working and their usage in practice for technical teachers training. It describes technologies that enable creativity development and activity growth.*

Key words: *Project method, teacher's preparation, technical education, topic, motivation, and student's interest.*

1. INTRODUCTION

It is well known, that effectiveness of the teaching process may be reached by convenient motivation and activation of students by means of untraditional teaching methods utilised for technical education, better than by traditional way. The same we can declare that it holds by including of these methods in the preparation of the teachers for technical education. By this way it is possible to reach better results of the work, for the development and for the major independence of decisions and planing of the all work. The project method constitutes in this regard, with relation for practical located courses, one of the best instrument for active link up with students for assumption adopting of skills and knowledge. It is necessary to choose definite difficulty of the project work. In the case of students as future technology teachers is possible impose the project enough complicated, including more partial problems and impositions that it is necessary to solve. The utilising of the activation method has in this case the importance as the matter for proper implementation of skills by active way, to gain the imagination about possibility of these methods which may be utilised at the work of the teacher for technical education.

The students face problems of the study determined by study plans in the subjects of the obligatory character and many times have not in the frame of there subjects, any space for

the application of their interests, for the development of creativity and have no active accesses being connected with the organisation of their work.

In the practically focused may be applied courses spheres, where the students can use their imagination and creativity, resulting in the obtained skills and knowledge.

We contribute, by project work in a frame of these subjects, expressively to the modernisation of the education. These problems are connected with questions of the development technical consideration, problems solution training, and student‘s preparation for the practical life. One of these subjects may be the wood-works.

We can determine hardly the day when the man began to exploit the wood not only as a material for ensuring of the life needs but also as a material expressively esthetic and decorative. The magic and attraction of the wood consists in its individuality.

2. PROJECT METHOD

Every chip of the wood has got its unique design and specific property from the rise to its decay. When we take the wood into hands with a certain final intention, we must be absorbed seriously in thought, whether the resulting products will be worth enough, the tree would by hewed down.

The sphere of exploitation the woodstuff is so much wide today, that is very difficult to find the branch, where the wood wouldn‘t have at least the trace role. It is evident that from this point of view, with regard to a woodworking, the people go back again to same older technologies valorises it in new conditions and exploits it for the production of decorative articles. The turning, the woodcutter technology, incrustation, outside adjustments and alike belong among this technologies.

By the project work in the frame of these subjects expressively we are may contribute to modernisation of the education. These problems are connected with the questions of the development of technical thinking, with a solution of problem tasks and with preparation of students by means of practical experience. One of these subjects may be “woodworking”.

3. WOOD TURNING TECHNOLOGIES

From the wood turning rotary shapes of different profiles arise by contrast to the metal turning are here typical tools turnerchisels. This tool is held by both hands at the shaping and in the close distance of the shaped object supported by the supporting cross. The turnerchisel

has got similar appearance like usual joinerchisel, but is however substantially longer with a smooth handle, which makes, by means of prop, compensation of cutting power. At woodturning it is possible, just by hand, to controll turnerchisels to create relatively easily smooth protracted even sharply rounded shapes and complicated curves, including cavities, which might be realised by mechanical feeding very problematically. Really valuable decorative objects fully exploit this possibility and enables substantially pleasant shape elegance than straight or semicircely grooved experiments, used for vases, candlesticks etc.

The wood turning is relatively attractive and at first sight very easy to master for beginners, but really good results are possible after certain many experience, with regards to proper selection of the wood, preparation of the semiproduct, if need be even surface adjustments.

For acquiring the best appearance of wood products is necessary to decide for convenient surface adjustment. Polishing is one of the oldest surface adjustments of the wood especially when using an original polish. This surface adjustment stopped for the use by extending of industry products of the furniture became with help of the machines is not possible to do it. The polishing demands the skills, much time and the patience. For example shellac technologies. The reward for it is beautiful honeyed appearance and lustre, maximum underlining of optical qualities of the wood.

For all operations, which the original technology polishing amount to, is necessary further on to dilute in definite rate by spirit. It is need too to differentiate what sort of wood will be polishing, because is possible to prepare polish to light shade like for example maple alder tree, lime tree, beech, koto or the dark polish which is used for the mahogany, walnut, palisander, okavangol and other dark woods. The procedure amounts to complete preparation of the surface inclusive of penetration with the suet, painting by polish, manifold polishing and finish drying. The progression and the description of the original technology are beyond the frame of this contribution. The whole progression is possible to simplify for example at surface adjustment of the turned objects when piled up and dried polish is polished by turning with the product.

4. CONCLUSIONS

In the frame of modernisation in educating, new educational scheme and its actualisation we have to do all we can for students and their getting acquainted with cultivated

materials and less extended technologies. This theme is getting importance with regard to educational plans.

Students‘ projects in this theme bring satisfaction in consequence fantasy and author‘s creativity. Work with wood brings cheer for many people and more and more people can motivated. That‘s why it is very good opportunity to create some projects with woodworking. The technologies like this one we don‘t usually meet every day. It‘s very good idea to show to student this kind of work as theoretical subject but it‘s much better that students can try and practice it on their own.

Making projects focused in similar topics is one of the methods where we needn‘t to force on students to reach certain results. But with these projects they want to get better, procuring new skills, searching for problems and methods of solutions on their own.

5. REFERENCES

MOŠNA, F., Didaktika technické výchovy, 2. díl. UK Praha, 1991. 310 s. ISBN 80-7066-410-X

MOŠNA, F., RÁDL, Z. Problémové vyučování a učení v odborném školství, Praha 1996. ISBN 80-902166-0-9

CHRZOVÁ, M., Metoda projektové techniky. In: Modernizace vysokoškolské výuky technických předmětů. Gaudeamus, Hradec Králové 2000, s. 77-79. ISBN 80-7041-723-4.

JANOVEC, J., ZUKERSTEIN, J., Projekt jako aktivizační metoda. In: Modernizace vysokoškolské výuky technických předmětů. Gaudeamus, Hradec Králové 2000, s. 80-82. ISBN 80-7041-723-4.

HÁJEK V., Práce se dřevem. 2. vyd. Praha, Svoboda-Libertas 1993, 365 s.

NOVOTNÝ, J., Projekt a problémová metoda při přípravě učitelů technické výchovy. In: Modernizace vysokoškolské výuky technických předmětů. Gaudeamus, Univerzita Hradec Králové, Hradec Králové 2003, s.121-122. ISBN 80-7041-545-2.

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