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Contents of Articles

Proper Way of Using Computers in Future in the Field of Junior High School Art Education.

AKIYAMA, Tetuo

Japan of today is a highly developed information-oriented society. We cannot imagine how our daily life and social activities go without computers.

Therefore, even in school, the children who will form the next generation should be trained in computer literacy education. They should cultivate the ability to receive all kinds of information correctly and deal with them properly. Then they will be able to use computers as a tool for their life and work in everyday life very easily. We should meet these demands of the times.

And, in each course of study, CAI (= computer-assisted instruction) is being encouraged.

However, we must regrettably say that in the art department of junior high school, CAI is not properly made use of by teachers and students.

Then, I intend to investigate its cause. I believe computers can be the tool for the expression of the plastic art. As a practical step of

solving the problem, I have made some original teaching materials as a software and used them in a class as an experiment.

This experience has led me here to discuss the proper way of using computers in future in the field of junior high school art education.

Ceramic Moulding by Inner Moulds
—— Application of Foamed Polystyrene to Inner Moulds ——

YANAGIHARA, Akihiko

Press moulding has been used as a ceramic technique in various way. In most cases, outer moulds of plaster have been used. Inner moulds have been considered not applicable other than shallow objects because of cracking and difficulty of mould removing. Supposing that these problems are solved, inner moulds have many advantages in use of various decorative techniques such as lamination, inlaied agateware and sculptural forming.

In this thesis, discussions are made on the stength of experiments to solve the problems of cracking and mould removing, consequently to prove that the inner mould is applicable.

As a material of the inner mould, foamed polystyrene is proposed. Foamed polystyrene has many advantages such as its flexibility, shrinkability and light weight as a material of the inner mould.

To solve the problem of cracking, appropriate timings of mould removing are discussed through the experiment in various clay. Another solution for cracking is to make several grooves in proper

locations of the mould in order to give the polystyrene mould more shrinkability.

To solve the problem of mould removing, a technique of block mould is proposed. Inner moulds can be cut into several blocks in order to make removing easy. Another solution for mould removing is to heat the polystyrene mould up to about 150°C. The mould will shrink untill about 1/8 of its original volume.

Potentialities of Polystyrene Foam as Formative Material

SAKAI, Wahei

Polystyrene Foam, originally developed as an insulation and a buffer for packaging, is now a widely used formative material. However, it has not been fully understood and exploited in terms of its effective uses as a tool. While improving and experimentally manufacturing Nicrome cutting wire, I found a unique form produced through a paticular method of using Polystyrene Foam and Nicrome cutting wire together.

Reconfirmed Distinctions of Polystyrene Foam

1. It can make a precise cuboid easily.

While making models, we can use six outer faces as standard faces, if the cuboid is precisely molded. Until now, requiring high precision machines and technical expertise. In our method, however, a precise cuboid can be made easily using Nichrome cutting wire (currenty available on market), once the proceduce is mastered.

Furthermore, because we can set the standard inner face from the outer faces, compricated formations can be realized rather easily. Curved surfaced can also be diagrammed by using the standard face as a base.

2. The same work can be cut repeatedly in various directions.

In this method, we can begin cutting the work in one direction, followed by other directions, many times in succession. Only this method makes the above mentioned process possible and therefore yields a high potential for producing unique and original fomations.

3. The model and the cast are made simultaneously.

This method of cutting produces a surface without chips, and therefore we can get a negative model from the positive model at the same time. The vacant space produced by removing the model can be used for a plaster cast. Because Nichrome wire is very thin, the melting margin is as neglibible as the sand paper trimming margin.

4. It can be developed into a fullmold casting.

Because the finished model can be metal casted in the fullmold method, it is most very useful for manufacturing single sample of metal goods or crafts.

In this paper, I will first discuss the formative process, including —— the combination of material, the tools as well as their handling

—— by using rectangural parallepied, and cylindrical formations as examples. Secondly, new ways to handle the available tools, their improvements, new experimental production, and computer cotrolled Nichrome wire cutting will be illustrated. Lastly, works using these tools will be introduced.