



Transnational tomorrows today:

Graduate student futures
and imaginaries for art education

Guest Editors:
Anita Sinner, Kazuyo Nakamura
and Elly Yazdanpanah

UNESCO OBSERVATORY
MULTI-DISCIPLINARY eJOURNAL IN THE ARTS

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ABOUT THE e-JOURNAL

The UNESCO Observatory refereed e-journal promotes multi-disciplinary research in the Arts and Education and arose out of a recognised need for knowledge sharing in the field. The publication of diverse arts and cultural experiences within a multi-disciplinary context informs the development of future initiatives in this expanding field. There are many instances where the arts work successfully in collaboration with formerly non-traditional partners such as the sciences and health care, and this peer-reviewed journal aims to publish examples of excellence.

Valuable contributions from international researchers are providing evidence of the impact of the arts on individuals, groups and organisations across all sectors of society. The UNESCO Observatory refereed e-journal is a clearing house of research which can be used to support advocacy processes; to improve practice; influence policy making, and benefit the integration of the arts in formal and non-formal educational systems across communities, regions and countries.

INTERLUDES

MAKING MULTI-RACKS THAT FULFILL THE SDGS

A VISUAL ESSAY

AUTHOR

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Hiroshima University

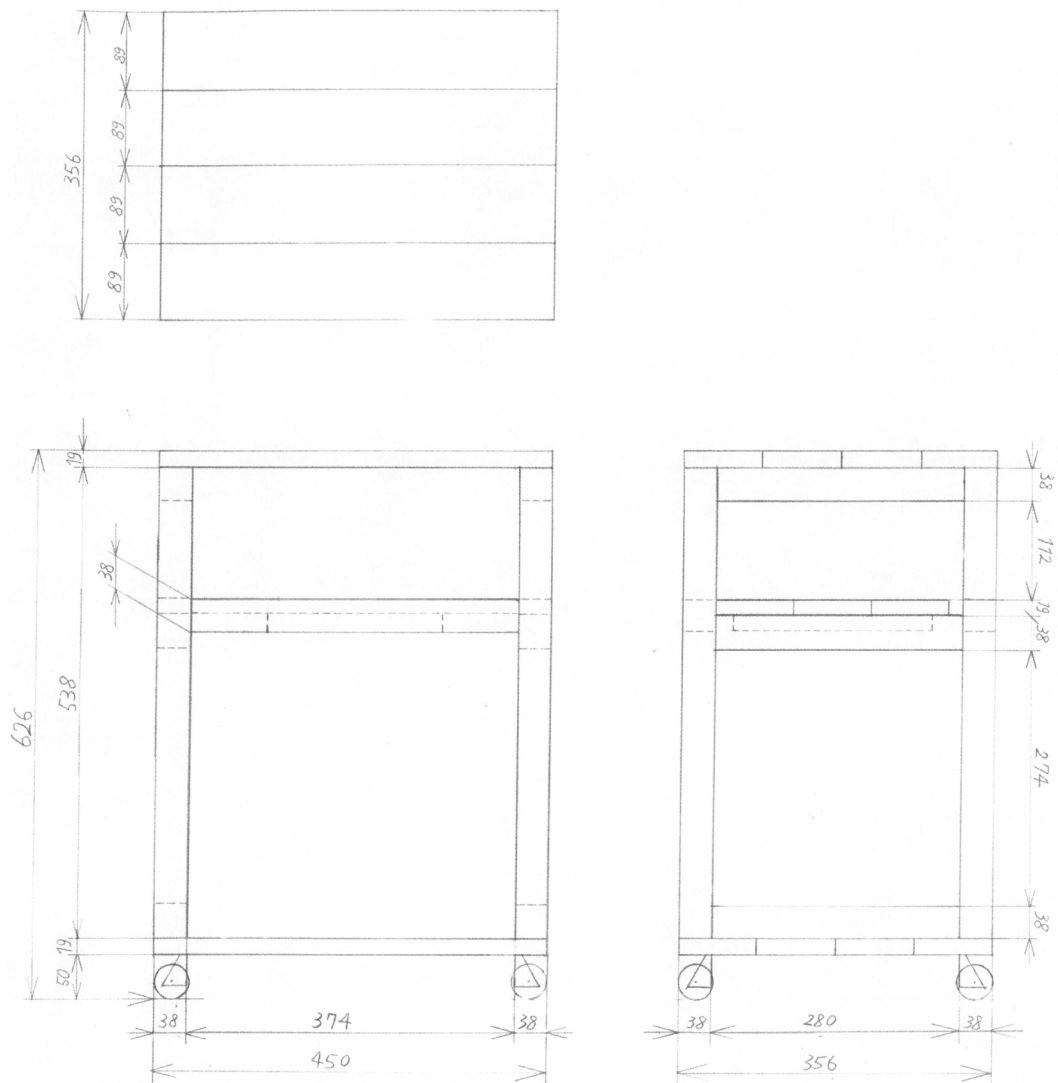


Figure 1.

Projection of the multi-rack using the third-angle projection method (medium: pencil drawing; dimensions: 29.7×42cm).

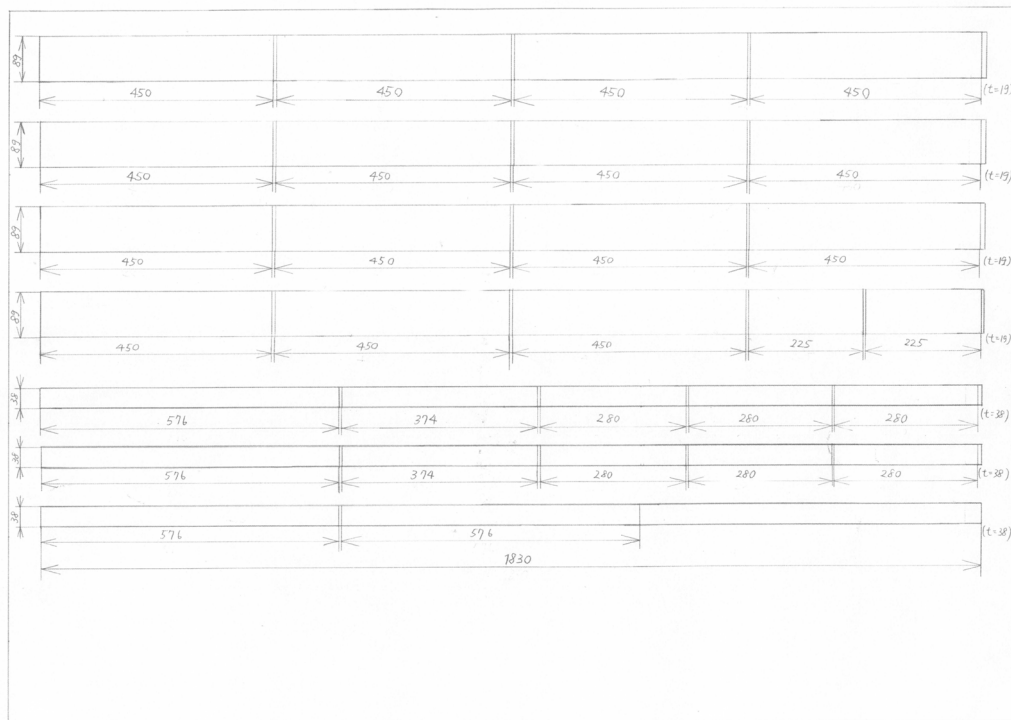


Figure 2.

Drawing of material to be used for the multi-rack
(medium: pencil drawing; dimensions: 29.7×42cm).

KEYWORDS

SDGs #4, SDGs #12, SDGs #15, manufacturing, consumption and production

I believe that social responsibility for manufacturing activities contributes to the realization of the Sustainable Development Goals (SDGs) through the enhancement of creativity and problem-solving ability in the manufacturing process. Goal 12 of the SDGs is closely related to manufacturing and requires us to 'ensure sustainable consumption and production patterns.' With this goal in mind, I propose manufacturing multi-racks.

My choice to produce these multi-racks is motivated by two challenges I face in my daily life. The first is that the bed I use has no headboard, which causes inconvenience due to the lack of a place to put things such as alarm clocks and remote controls. The second is the lack of a place to store the messenger bag that I use daily, which needs to be placed in a high position to facilitate the removal of its contents for use while doing desk work.

My first work, 'Projection of the multi-rack using the third-angle projection method', expresses the idea of a multi-rack that can fulfill these purposes and achieve Goal 12. It shows a projection of the multi-rack to be manufactured using the third-angle projection method.

The specific measures taken to fulfill Goal 12 are described below. Sustainable production includes the selection of materials that are easy to reuse, and in consideration of material removal in the design, how sustainable consumption through multifunctionality can be used in various situations and places. In this case, because the designers, producers, and users of the product are the same, I constructed this work while considering the user experience beginning in the design stage so that the condition of sustainable consumption can be fulfilled.

To ensure the selection of materials that are easy to reuse, I considered to primarily use spruce, pine, and fir (SPF) SPF wood. SPF wood is sold in standardized formats. It is easy to repair, and it has features that make it easy to reuse when dismantled. In addition, it is made of fast-growing wood (spruce, pine, and fir). Therefore, the load on the forest is small, which contributes to Goal 15 to 'protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation, and halt biodiversity loss'. From an educational point of view, SPF wood is suitable for students who are interested in learning the basics of wood processing techniques as it is soft and thereby easy to process. I believe that this contributes to Goal 4, which is to 'ensure inclusive and equitable quality education, and promote lifelong learning opportunities for all'.

For the condition of material removal, it is important to minimize the waste generated during processing to ensure resource conservation. There is a case study of junior high school students working in small groups as part of a technology class who practiced the effective use of materials to reduce the amount of wood used through material removal (see Kimura et al. 2009). In this case, the effective use of materials was also achieved by reducing the wasteful use of materials. It is not always easy to manufacture the desired product. Problem-solving skills are required, and the solution may be a

trade-off. However, even if the dimensions of the materials are not changed, it is possible to restrict material wastage based on how the materials are combined. My second work, 'Drawing of material to be used for the multi-rack', shows how to use the material based on the dimensions of the purchased wood and the sizes required for producing the rack. This resulted in one off-cut approximately 670 mm in length and six off-cuts less than 30 mm long left over. Approximately 670 mm of wood could be satisfactorily reused.

Considering the rack's multifunctionality, in addition to its roles as a bed headboard and a bag-storage space mentioned as the motives for production, I added a bed-side table and additional storage. The side table could also be used as a desk, at which one can work or dine while seated on the bed. As storage, it offers a space that can hold A4-size documents vertically and another that can hold small items. The center board of the shelf can be removed to create a larger space, if necessary. In addition, the attachment of casters to the multi-rack allows it to be moved freely to the desired position. As it can be used in a wide variety of situations, it can be used for a long time, even if lifestyle changes occur.

Designers and producers have a responsibility to ensure sustainable production. However, sustainable consumption should not be the sole responsibility of the consumer. In the future, designers and producers involved in manufacturing should also devise and explain products so that consumers can fulfill their sustainable consumption. An attitude of visualizing the consumer and assuming joint responsibility for sustainability is necessary, and it is important to disseminate this concept not only to the manufacturing industry but also as a subject in school.

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