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Evaluation Criteria in Industrial Design Learning: An Analysis of Teachers' Perspective

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Summary

Learning assessment, one of the most important teaching-learning activities, enables the teachers not only to judge the students' learning performance, but also to understand the their problems in learning to make appropriate adjustment in teaching practice. Among the various learning assessment methods, pencil-paper test is the most common one that is usually conducted in terms of false-true questions or multi-choice question, and hereby invites questions about its capability in revealing the students' performance and achievement in reasoning, and analysis. Several alternative methods known as multiple assessments are proposed allowing the teachers to evaluate the students' real and overall learning performance, and to understand students' ability in problem analysis, solution seeking, and communication. Both Performance assessment and portfolio assessment are the most common alternative methods.

Reflecting the nature of design tasks, learning assessment in industrial design practical course mainly uses multi-assessment approach, in which teachers evaluate the students' learning performance from the design outcomes as well as the process and participatory. However, since there is no standard answer for the design outcomes in quality, the current

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practice in design learning assessment is difficult to conduct objectively, and is subject to incur the suspicion about the fairness and preciseness of the assessment.

On the other hand, research interesting to learning assessment seldom concerns with design practice learning domain. Most of the current studies about design learning assessment mainly focus on establishing the rubric of assessment and identifying the needed items for assessment in terms of questionnaire survey. Nevertheless, the study described in this paper argues that, with inappropriate research approaches, these researches fail to reflect on the practical issues such as the uncertainty of meanings of assessment criteria, and to propose applicable assessment guidelines for the practical need.

Recognizing the practical limit and the flexibility of design practice learning, this study is neither to adjust the rubric proposed from the current studies, nor to construct a systematic assessment guideline for design practice learning. Instead, the aims of this study attempt to understand what the teachers' perspectives about the meanings of the assessment criteria used in design practical project learning, and how the teachers explain these assessment criteria.

The approach was conducted by interviewing 9 design teachers and applied the text analysis to the transcriptions from the interviewing utterance. The 9 interviewees are selected in purpose by taking into account their background, teaching experience and the willing to be interviewed. During the interviewing session, these interviewees were asked to give their comments according to their past experience in teaching design project in design practice course, e.g. the graduate project in the final year.

The analysis tasks include four stages: (1) transcribing the interviewing data, (2) categorizing the transcription into three parts, the criteria, the meanings and the way of explanation to these criteria, (3) integrating the criteria having the similar meaning within each interviewee's transcription, and (4) collecting the same criteria together from different interviewees. In order to improve the reliability of the analysis, the researchers collected the other teaching materials offered by the interviewees, for instance PPT files, handouts for design project, sketches and rough models to demonstrate the performance, and photos of panels to explain the presentation skills.

The analysis identified 10 assessment criteria, i.e. creativity, form aesthetics, integrity, presentation skill, performance, product function, marketability and technical concern, design specifications, mass-productivity, and value. The first 5 items are mentioned more commonly by the interviewees, and therefore discussed further in this paper about the contents of these criteria, and how the teachers explain meanings of them to the students.

The analysis results showed that apart from part of the contents of “integrity” and “performance” belonging to quantity attribute, the contents of all assessment criteria are virtually qualitative depiction. The interviewees presented that there is no standard and consistent meaning to each criterion because the contents of assessment criteria are project depended whilst different projects have different requirements in learning performance, e.g. design outcomes and processes.

Moreover, the interviewees broadly use various kinds of visual materials to assist the oral explanation to these criteria, but argue that it is not easy to clarify what exactly the good or bad learning performance is prior to the commencement of a project, since the students could make very different design development from each other. As each student is encouraged to develop his/her own unique design concept, the interviewees emphasized that the teacher-student discussion is very important for design practice learning because it is the time for the teachers to explain the meanings of criteria to each student according to the design tasks he/she has developed.

Facing on the subjectivity as the key feature of design, this paper discussed the factors affecting the assessment practice including (1) the teachers, (2) the teaching materials, and (3) the features of industrial design. The implication of this study is then made by proposing the application of inter-subjectivity to enhance the interaction and dialogue between the teachers and the students, and become the co-learning group to achieve the better teaching and learning performance. Finally, the future study is pointed out concerning with a boarder range of interviewing survey on design practical project.

Keywords: industrial design project learning, learning assessment, design education