
providers, depending on the characteristics of the department. This move will contribute to expanding the target and function of the educational services provided by junior colleges.

Sixth, financial resources must be secured in support of customized training. As was illustrated by the junior college survey, most junior colleges receive no financial assistance from affiliates, and, when they do receive financial support, it is in the form of equipment and software provisions that are more of an effort to promote cooperation between the school and industry, rather than financial assistance directly related to customized training. Junior colleges must, therefore, begin charging companies for training programs provided at their request. The current form of customized training may enhance cooperation between the school and industry, but it does little in the way of expanding the financial resources of the college. Under these conditions, if governmental support is discontinued, it will be very difficult for junior colleges to continue providing customized training.(kkj3498@krivet.re.kr)

Editorial Design and Development System for High School Vocational Textbook

RR 00-2

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I . Overview

This research introduces the systematic concepts of editorial design, unique

to printing and advertisement, and their applications to textbooks, to develop an editorial design system useful in the development of textbooks for vocational high school courses that are in accordance with the objectives of the Seventh Education Course, yet, are, from a student's perspective, more effective, interesting, and structured, and, thereby, systematically provide the requisite preliminary information and application methods. The research consisted of a review of the purpose and role of the textbook, general applications and configuration methods of editorial design, analysis of the motivational factors of vocational high school students, teaching and learning methods, and a comparison of design systems between the indigenous textbooks in current use and those used abroad. The results of the review helped to establish principles for an editorial design system for vocational high school textbooks and suggestions for its application. The results of the research were reached after a review and analysis of related literature, three textbook analysis workshops that provided a source for expert advice, and interviews and seminars. Additionally, a planning team for the practical application of the editorial design system, consisting of advisory professors and research staff, was organized.

II. Analysis of the editorial design system for vocational textbook

1. Analytical framework

The contents of the analytical framework included the five following categories: (a) a readability text domains for evaluating the appropriateness of letter size, letter spacing, sentence length, and line spacing. For text composition features, letter font, application, and levels of visual composition

of letter groups were reviewed; (b) a visual domain covering the brightness of colors and shape correctness, from the printed manuscript's point of view. Appropriateness of visual content and expression were also reviewed for application features; (c) a layout domain encompassing the appropriateness of typesetting and space efficiency for composition features. For representation features, efficiency of visual and text explanation, and the production of open pages were reviewed; (d) a composition domain that included the consistency of page connections and comparison of the effect between pages to evaluate superficial organizational structures. For representation features within the composition domain, evaluations were performed to measure the level of efficacy in student understanding and memorization of the contents, and the level of progressive steps of visual understanding of the contents; and (e) ancillary features included various visual effects, such as the cover page, pictures, diagrams, figures, characters, and numbering systems. Print setting, paper quality, and binding methods were also evaluated to determine if they properly supported the textbook contents.

2. Analysis of vocational textbooks

The analyses of the vocational textbooks were conducted by a group of experts in editorial design and textbook development participating in workshops, where the entire group reviewed the analysis reports. Average analysis was used to compare indigenous vocational textbooks to equivalent textbooks from abroad. Average analysis by group was used to compare the levels of editorial design between the indigenous and overseas textbooks. Classification for analyses of vocational textbooks were divided into three types: (a) theory book for introductory content; (b) vocational textbook primarily consisting of explanations of principles and structures; and (c)

vocational textbook primarily consisting of suggestions, processes, and experimental results. Classification was based on the amount of visual and text contents required by each vocational textbook and its particular requirements.

Analysis of the composition domain indicated that, according to the representation method emphasizing textbook characteristics and differences in print setting, adjustments in the font and typesetting were needed. It was also determined that there was an absence of efficient application of printing manuscript levels, various visual effects, and representation methods. Analysis of the layout domain found that immediate reconsideration of basic typesetting, spacing, and page composition were required. The review of the textbook composition domain also found inefficiency in visual effects concerning the representative content and a lack of consistency. Furthermore, overall problems with the editing of the cover page, presentation and choice of pictures, and the absence of character applications were pointed out. All these findings made it necessary to adopt new editorial design standards in association with textbook contents.

Additionally, results from the analysis of vocational textbook types found no differences in font, and the adoption of script shape and text typesetting were made without consideration of differences in textbook classification types. It was particularly noted that immediate attention to readable parts of vocational textbook with large amount of contents must be provided. Analysis of the visual manuscript status and its application to the visual domain found that an improvement of visual manuscript correctness was necessary. Moreover, lower levels of application technique in expression genres and the application methods adopted by indigenous textbooks, in comparison to those of overseas textbooks, make it necessary to introduce advanced and systematic applications for visual effects.

The review of the composition (flow) domain found that editing

considerations according to the above classifications, in all types of vocational textbooks, were regarded as being more efficient. It was found that efficient application of an editorial design system took direct effect not only in strengthening the structural efficiency of textbooks, but also in expressing textbook contents. It was also found that cover pages of indigenous textbooks needed better application of visual effects in accordance with the classification of the textbook. In particular, the flexible adoption of print setting and choice of paper quality according to textbook type must be taken into consideration.

III. Development of an editorial design system for vocational textbooks and its application method

1. Development direction of the editorial design system for vocational textbooks

The principal directions of an editorial design system that is applicable within the limits of vocational high school textbooks, are: (a) The system must strengthen the principal role and function of textbooks; (b) It must consider the characteristics of vocational high school students; (c) It must support the teaching activities of vocational high school teachers; (d) It must be a concrete application method that focuses on the characteristics of vocational textbooks; (e) It must be based on objective completeness and enable its application to other general textbooks; and (f) It must consider connectivity and applicability to other teaching and learning media.

2. Application method of the editorial design system for vocational textbooks

The results of the literary analysis, vocational textbook analysis, and the

aggregation of expert group opinions played a major role in determining the basic principles for application of the editorial design system.

Application of the editorial design system, according to the composition domain, should be as follows: For text applications, new serif fonts, with higher readability, were chosen for the main content, while gothic fonts were chosen for titles. Basic typesetting was established by applying 10.5 point pitch to the main content, setting letter spacing at 93%, word spacing at -5, sentence spacing at 17.5 points, sentence length at 109mm, the content occupancy ratio at 50%, and paragraph division with letter back writing. In order to secure consistency and balance of the overall textbook flow, font application was determined within limited parameters. Size application was made to aid visual discernment from large domains to small domains.

The visual domain approach avoids visual distractions in technique, genre, display layout, and size comparison, and the layout illustrates how easily the application of typesetting and spacing can be put on a grid. The composition (flow) of vocational textbooks strengthens division and flow through the application of clear visual effects, such as the consistent application of color and of character to illustrations, and thereby helps students systematically understand its contents. Textbook cover page analysis was approached by means of the composition method based on the average ratio, which was conveniently applied. Analysis of inner pages was conducted through the selection of an asymmetric format, which differed from the cover page to emphasize textbook content. The "Introduction" was primarily arranged with the text. Content arrangement was provided to help readability through a packaged arrangement of chapters from top to bottom to provide better visual flow, and immediate understanding at first sight, with the arrangement having previously been made from the left to the right. Characters were consistently

organized by providing typography of chapter names and illustrations, and other contents besides major content were differentiated by illustration character and background color. In order to make it easier to understand the sequential flow of the textbook numbering system, font, illustration size, and color, except for Korean letters, were suggested for differentiation purposes. The page numbers of cover pages were positioned at both ends of each bottom margin, together with repetitive printing of main and small chapter titles at both ends of the top margins to provide a sense of stability and balance.

Application methods for each vocational textbook type, according to the different classification methods, were conceived primarily based on the different characteristics of the textbook subject, with visual amounts and text amounts required for a limited number of pages. Type A textbooks primarily consist of text, and the typesetting was conceived based on readability, while Type B textbooks were conceived to provide small visuals, so as not to make it difficult to read the main content while trying to understand the text content. Type C textbooks contain large amounts of various visuals. It was therefore suggested that the letter spacing be adjusted from -8 to -10 for a tighter setting, so that text typesetting could be grouped with visuals, and a six column division grid be principally applied to allow visuals of various sizes.

IV. Recommendations

It is recommended that the following policy matters be followed to effectively and systematically develop textbooks for vocational high schools.

First, it is necessary to secure differentiated and various types of textbook development. Liberalization of existing regulations concerning textbook development is suggested, so that creativity of textbook editorial designs and

variations in textbook development may be exercised.

Second, a specialized editorial designer should participate in the textbook development process. It is necessary that the role of the design expert is emphasized in the process of the textbook writing and editing stages, and responsibility for supervision of the overall process at the level of the central administration office be secured by the editorial designer.

Third, a budgetary increase in textbook development costs is necessary. It is suggested to significantly increase the expense budget for textbook editing, layout, illustrations, photos, cartoons, etc., sufficient to reach a level that will attract the interest of students.

Fourth, policy-based support, at a national level, for the development and application of the textbook editorial design system is needed. Systematic national support is required to conduct research and develop on editorial design for introduction and application to textbooks.(jslee@krivet.re.kr)

The Policy Implications of Effective Funding for Junior Colleges

RR 00-3

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This research suggests policy implications of effective government funding for Korean junior colleges, and ensures and normalizes the vocational education offered by these colleges, which will supply and develop human resources for the upcoming knowledge-based society.