An Assessment of the Effectiveness of Backward Design in Microlecture

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Abstract: In the past decade, there is a growing tendency of applying mirolecture to supplement the offline course instruction. The instructional designs that aim to support the acquisition of new knowledge and skills from the microlecture are being constantly created, reviewed and revised so as to maximize the learning outcomes. The Backward Design instructional model offers a systematic problem-solving approach to improve instructional effect and learning outcomes. To explore the application and effectiveness of Backward Design in microlecture, this paper applies the Backward Design to the instructional design of a 20-minute-length microlecture, assessing its effectiveness by dividing students into the contrast group (91 students) and the experiment group (91students). The experiment results demonstrate that the task performance of experiment group was 5.3% higher than that of the contrast group.

Keywords: Microlecture; Backward Design; Instructional Design

1. Introduction

In the past decade, the number of mirolectures in course instruction has been on the continuous rise. The growing popularity of the application of microlecture is attributable to its systematicness, coherence and interestingness, as the 'less is more' microlecture uses compelling concise to capsulize the key information and visualize the instructional methods. Yet, creating effective learning experiences in mircrolecture proves to be a complicated task. There are many widely implemented instructional models that fail to produce efficient learning outcomes, leaving much to be desired. Consequently, the instructional designs of microlecture are under regular reviews and revisions. The Backward Design instructional model offers a systematic problem-solving approach to improve instructional effect and learning outcomes.

2. Literature review

The instructional model of Backward Design is originated from Wiggins and McTighe, who suggest that learning experiences should be planned based on the final assessment. The model is divided into three stages, including identifying desired results, determining acceptable evidence of learning and designing learning experiences and instruction respectively. In this sense, the Backward Design reverses the procedure of instructional design by beginning with the desired results. Following this, the model derives the curriculum from the evidence of learning (performances) called for by the standard and the teaching needed to equip students to perform' (Wiggins and McTighe, 2005). It is contended that Backward Design ensures the instructional and learning experiences to be in compliance with the instructional objectives and learning outcomes, and the instructors can better tackle the common problems with the forward planning by being result-oriented and goal-focused, resulting in higher student performance.

3. The application and exploration of Backward Design in microlecture

3.1 Instructional content

In an increasingly competitive workforce, professional success requires excellent communication skills, which are developed and transited from university education to professional life. As research reveals that the higher an employee moves within an organization, the more important speaking skills become. In business, oral communication, whether in face-to-face situations or telephone conversations, serves many important functions. Oral presentation is the primary format of oral communication, and aims to share expertise, deliver information, modify attitudes and influence actions. [1]

This microlecture offers a detailed discussion regarding oral communication in a cross-cultural business setting, and touches upon three aspects of oral presentation, namely: the definition and basic communication goals of oral presentations, presentation stages and tips to deliver an effective and influential oral presentation.

This paper applies the Backward Design into the instructional design of a 20-minute-length microlecture, exploring its procedure and effectiveness to achieve the desired outcome. To explore the application and effectiveness of Backward Design in microlecture, 182 students of the course are divided into two groups, the contrast group (91 students) and the experiment group (91students). The contrast group were unaware of the desired learning outcomes and had no knowledge of the given tasks, while the experiment group were informed of the desired learning outcomes and given the speech topics prior to the microlecture. To be more specific, the experiment group was guided through by understanding the desired learning outcomes and shown the final assessment task prior to

the microlecture as follows:

3.2 Stage 1: Identify desired learning outcomes

Based on the instructional content, the first stage of this instructional design is to identify desired learning outcomes, which follow the four fundamental principles; namely, specified SLOs, extended learning opportunities, instructional design and higher objectives.

Table 1: The Four Fundamental Principles of Desired Learning Outcomes

Principles	Details
Specified SLOs	Students are expected to deliver effective oral presentation in the cross-cultural business setting.
Extended learning opportunities	Students are recommended to refer to a collection of printed and video sources to polish their oral presentation skills.
Instructional design	A thoughtful and well-conceived instructional design enables the obtainment of the instructional objectives.
Higher objectives	Students are encouraged to realize their personal learning objectives.

By factoring the four fundamental principles into consideration, the students are given a list of the topics to polish their oral presentation skills after the acquisition of the new knowledge and skills of the microlecture. The ultimate learning outcome is to reasonably structure and effectively deliver a 3-minute presentation on a selected list of topics. The students are informed of the tasks ahead of the microlecture to pre-assess their oral presentational skills, identifying their strengths and weaknesses in completing the final assessment tasks. The list of the topics are as follows:

Table 2: Speech Topics for the Final Assessment

Topics	Communication skills for the busy professional Team building strategies for success Building your social capital Masterful coaching Leadership skills for creating new futures Mastering time management-getting things done Peak performance strategies of successful people Work less - make more Brand management strategies Cross-cultural business communication tips

Based on the afore-discussed learning outcomes, the instructional objectives are established centering around the development of knowledge and skills, process and steps, emotional attitudes and values and the occurrence.

Table 3: Instructional objectives

Objective	Instructional content	Specific details
Knowledge and skills	Definition, goals, stages and tips for oral presentation	to understand the definition and significance of oral presentation to learn the basic goals of oral presentation to master the stages of an oral presentation to learn the tips to improve oral presentation skills
Process and steps	Prepare, structure and deliver the oral presentation	to prepare an oral presentation within the framework of the stages to structure an oral presentation with an intriguing opening, valid arguments and emphatic conclusion to apply the tips to practice an oral presentation in a fluent and coherent and manner
Emotional attitudes and values	Interests and engagements in cross-cultural business oral presentations	to inspire students' interest in cross-cultural communications, especially oral presentations to encourage students to engage in oral presentations for a variety of topics
Occurrence	The learning process: pre-lecture, lecture and post-lecture	

3.3 Stage 2: determine acceptable evidence of learning

The target students are sophomores major in international economics and commerce. Previously, the students have taken a series of English and business-related courses including international trade theory, international trade practice, business English conversation and so forth. Based on these courses, students have developed a good understanding of international business knowledge and preliminary command of business English proficiency. In terms of their learning traits, the sophomores are more active in exploring knowledge rather than passively absorbing knowledge. In this sense, students tend to critically evaluate and accept the knowledge they are learning and are capable of reasoning and articulating their ideas in an independent and creative manner. Consequently, the instructors are not only acting as the knowledge imparter but also the learning partner who can inspire the students to reflect and interact, participating actively and making contributions to the discussions and debates. On the basis of the student profile analysis, the students have acquired fundamental knowledge and skills in delivery, structure and content of the oral presentation and the use of language to demonstrate their arguments.[2]

3.4 Stage 3: design learning experiences and instruction

The students need to preview the textbook to develop a better understanding of the background information. The instructional organization include five steps, including lead-in discussion, introduction to oral presentation, in depth discussion of oral presentation, summary and post-lecture task. Based on the aforesaid steps, the students are expected to remember, comprehend and analyze the concepts, steps and learning skills of oral presentation and eventually transform their understanding into creative practice. To illustrate the process, the instructional objectives, instructional content and student learning outcomes are shown in table 4.

Table 4: Instructional Process and Expected Learning Outcomes

Instructional Process	Instructional Objectives	Instructional Content	Student Learning Outcomes

Learning & Education

Step 1: Lead-in discussion	To realize the importance of oral presentations for all occupations alike	Quotations from Daniel Webster; examples of renowned politicians and businessmen	Recollection: define oral presentation and identify its significance and goals
Step 2: Introduction to oral presentation	To understand the definition, significance and basic communication goals of oral presentation	1. To introduce the definition and significance of oral presentation 2. To introduce the basic goals of oral presentation	
Step 3: In-depth discussion of oral presentation	To be familiar with the stages involved in an oral presentation and learn tips to improve oral presentation skills	1. To introduce the stages of an oral presentation 2. To offer tips to improve oral presentation skills	Comprehension: understand the stages essential for a great presentation and learning tips
Step 4: Summary	To learn how to make an effective oral presentation To go over the key points discussed in the lecture		
Step 5: Post-lecture task	To apply the knowledge to practice an oral presentation task	The students are offered a list of business topics to select from and practice	Application and creation: learn to apply the key points in structuring and delivering an oral presentation

4. Evaluation

Both the contrast group and experiment group were than required to complete the final assessment after the microlecture. The grading sheet for the task (as shown in table 5) is created to evaluate the measurable impact on the students' performance of this microlecture, and the students will be graded on their delivery, structure of the speech, content and use of language.

Table 5: Grading Sheet for the Task

No	Criteria	Percentage
1	Delivery □Spoke in a loud voice. □ Maintained good eye contact. □ Stood in a relaxed posture and made appropriate gestures. □ Did not read the script. □ Referred to the graphs and figures in the slides in an appropriate way.	25%
2	Structure □ Defined one skill or concept clearly and presented some examples of it. □ Explained one aspect from one topic and presented some findings about it. □ Followed the given presentation format. (Title page, overview, conclusion, etc.)	15%
3	Content □ Related the content to the given speech topic. □ Presented the content logically, clearly and concisely □ Summarized key points. □ Answered the questions regarding the content effectively.	40%
4	Language □ Spoke with intelligible pronunciation and intonation. □ Made appropriate pauses. □ Spoke in a grammatically correct manner. □ Used appropriate signposts. ("First," "Next," etc.)	20%
Specific & Overall Comments (Suggestions about specific body language, audience reaction, co-presenter rapport, or slide layout.)		

The scores of the experiment group and contrast group is shown in table 6. While the experiment groups score higher in delivery, structure, content and language by 1.8%, 1.6%, 1.3% and 1.2% respectively, leading to an overall 5.3% higher in performance. When they students are well informed of their expected learning outcomes, they consciously note down the key points to score higher in the final assessment, attaching more importance to the structure and logic of their oral presentation as well as their presentational styles and use of language.

Table 6: Scores of Contrast Group and Experiment Group

Criteria	Experiment group	Contrast group	Differences
1.Delivery	21.5%	19.7%	1.8%
2.Structure	13.7%	12.1%	1.6%
3.Content	37.2%	36.5%	1.3%
4.Language	15.2%	14%	1.2%
Total score	87.6% 82.3%		5.3%

5. Conclusion

Based on the above evaluation results, the task performance of experiment group was 5.3% higher than that of the contrast group. When they students are well informed of their expected learning outcomes, they consciously note down the key points to score higher in the final assessment. In contrast, the students, who are uninformed of the learning outcomes and final assessment, are more likely to miss out the key information instructed in the microlecture. Despite the negative connotation that Backward Design seems

to advocate 'teaching to the test', the model offers an efficient approach to guide the students to acquire new knowledge and skills so as to maximize the learning outcomes.

References:

[1] Reiser, R.A and Dempsey, J.V. (Eds.) (2002). Trends and Issues in Instructional Design and Technology. Upper Saddle River, NJ: Merrill Prentice Hall.
[2] Wiggins, G., & McTighe, J. (2005). Understanding by design (2nd ed.). Alexandria, VA: ASCD.