Research on the Development of Customized Faculty Training Curriculum based on Diagnosis of Teaching Styles: Focusing on Teaching Styles based on Educational Competencies

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Abstract

This study aimed to enhance the educational competencies of instructors and improve the quality of higher education by identifying instructing types, developing an assessment diagnostic tool, and designing a customized faculty training curriculum for each type. To achieve this, a literature review and Delphi research were conducted. The results are summarized as follows: First, instructing types such as 'Star Lecturer', 'Learning Mentor', and 'Designer' were identified through the analysis of previous studies. Second, a diagnostic tool for determining an instructor's type was developed by modifying and enhancing Grasha's Teaching Style Inventory, which is widely used both domestically and internationally. This tool comprises 24 questions, with 8 questions for each type. Third, a curriculum was designed for each instructing type, consisting of common courses necessary for all types and specialized courses tailored to the characteristics of each type. The common courses cover essentials for lesson design, implementation, and evaluation, while the specialized courses cater to the unique needs of each instructing type. Fourth, the developed model, tools, and curriculum underwent validation. A Delphi method was employed with a group of 10 experts, leading to revisions and finalizations based on their feedback. This study has laid the groundwork for instructors to identify their own teaching styles and receive customized training, thereby enhancing their teaching effectiveness and overall educational quality. However, further research is necessary to develop systems and mechanisms for the operationalization of these findings, including incentives for instructors and strategies for disseminating information among participants.

Key Words

교수유형 진단에 따른 교수 맞춤형 교육과정 개발 연구 : 교육역량 기반의 교수유형을 중심으로[*]

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논문 요약

연구 목적: 본 연구는 대학의 교육 질을 제고하기 위해 교수들의 교육 역량을 강화할 수 있는 방안으로 교수 유형을 설정하고, 해당 유형을 평가할 수 있는 진단 도구를 개발한 후, 유형에 맞는 맞춤형 교육 과정을 개발하는 것이다.

연구 내용 및 방법: 이 연구를 위해 문헌 연구와 델파이 기법을 활용했다. 연구 결과는 다음과 같다. 첫째, 선행 연구를 분석하여 세 가지 새로운 교수 스타일 유형(스타강사형, 학습 멘토형, 디자이너형)을 도출했다. 둘째, 국내외에서 널리 사용되는 Grasha의 티칭 스타일 검사를 수정 및 보완해 유형별로 8문항씩 총 24개 문항으로 진단 도구를 개발했다. 셋째, 교수 유형별 교육 커리큘럼을 개발했는데, 모든 유형에서 필요한 공통 과정과 각 유형별 특화 과정으로 구성했다. 넷째, 개발된 모형, 도구, 커리큘럼의 타당성을 10명의 전문가 델파이 방법을 통해 검증하고 확정했다.

결론 및 제언: 본 연구를 통해 교수는 자신의 유형을 인식하고 맞춤형 교육을 받을 수 있는 기반을 마련했다. 이는 개별 교수의 강점과 선호하는 교수법을 강화하고, 교육 역량을 향상시키는 데 기여할 것이다. 그러나 이러한 성과를 시스템적으로 활용하기 위해서는 추가적인 연구가 필요하다. 특히, 교수자에 대한 인센티브 제공과 참여 교수 간의 정보 공유를 촉진할 방안에 대한 연구가 더 필요할 것이다.

《 주제어 》
교수유형, 교수스타일, 교수 맞춤형 교육, 교육역량, 교원연수

I. Introduction

In the knowledge-based society, university education is evolving around the keywords of 'teaching competency' and 'learner-centeredness' (Kwon & Jung, 2018). Such changes are attributed to cultivate the core competencies of the 4th Industrial Revolution era, known as the 4Cs: Communication, Collaboration, Critical Thinking, and Creativity (Jeong, 2019). Therefore, professors are increasingly expected to possess strong teaching competencies to educate students effectively, which entails the ability to plan, implement, manage, and evaluate courses according to their objectives (Kim, 2021).

Furthermore, numerous studies on the quality of university education mention factors such as curriculum, teaching-learning methods, and student learning outcomes as determinants of the quality of university education. Among these, teaching competency can be considered the most critical factor(Kim et al., 2018; Choi et al., 2011; Han et al., 2009). Therefore, most universities have established supporting organizations for teaching and learning and implemented programs such as faculty training, class consulting, and teaching portfolios, and it is also a fact that many universities have traditionally conducted standardized training programs and similar initiatives for faculty development almost as a trend. However, to improve the quality of university education, it is imperative to identify individual teaching styles of professors and provide tailored education based on them (Min, 2021).

This study aims to establish teaching styles that prioritize teaching competency over other competencies required for professors, develop a tool for diagnosing the types of teaching styles, and construct customized educational curriculum and programs to strengthen teaching competencies based on styles. To accomplish this, the research will employ literature review and Delphi study methods. Initially, relevant previous researches will be analyzed to establish teaching styles and develop a diagnostic tool. Following this, appropriate educational programs will be designed according to the identified teaching styles. Subsequently, the validity of teaching styles, diagnostic tools, and tailored educational programs will be verified through Delphi study, and the entirety of the aforementioned components will be

finalized.

Upon completion and utilization of this research, the importance of tailored faculty development programs based on individual characteristics and teaching styles will be emphasized. Professors will have the opportunity to participate in education programs that are specifically designed for them, enhancing their teaching competencies according to their unique needs. Consequently, this research will lay the groundwork for each professor to strengthen their educational capabilities, ultimately contributing to improved teaching quality in higher education.

II. Research on Teaching Styles

1. The Concept of Teaching Styles

To better understand the concept of "teaching styles", it's important to distinguish it from other similarly used concepts, such as "teaching methods". It refer to the general educational dimension of activities, including the planning and execution of methods, materials, and audiovisual media for instructional activities(Shulman, 1987). The next concept to examine is "instructional model". It can be described as a form of blueprint or plan that encompasses the characteristics necessary to reproduce a classroom lesson (Schoenfeld, 1999). It serves as a structured framework to facilitate the implementation of teaching methods. Lastly, a related concept is 'teaching technique', which refers to strategies employed by instructors during actual classroom instruction, aiming to enhance the effectiveness of education (Kwon, Park, Choo, 2006).

To clarify the differences between the concepts mentioned earlier and teaching styles, we will examine various definitions of teaching styles: Darkenwald & Merriam (1982; cited in Min, 2004) refer to teaching styles as a set of teaching activities that reflect the beliefs of the instructor, and similarly, Galbraith & Sanders (1987) viewed it as a series of teaching behaviors performed by instructors. Additionally, Heimlich & Norland (2002) define teaching styles as attitudes and behaviors that reflect the values of instructors in all aspects of teaching and learning. Conti (1998; cited in Choi, 2017) suggested that it should be perceived as forms that include

not only the vision or philosophy of instructors but also the relationships with students and their reactions during class. Dunn & Dunn (1979), in this context, take a broader view, encompassing students, teaching methods, instructional materials, and the attitudes of instructors as part of a comprehensive concept.

To summarize, teaching styles refer to the unique ways in which instructors transmit knowledge, interact with learners, and organize educational content. It stem from the individuality, values, and educational philosophy of instructors. Unlike the definitions of teaching methods, teaching models, or teaching techniques, teaching styles require consideration of factors that reflect the unchanging traits of individual instructors and are not as easily applicable as methods or models. Therefore, accurately diagnosing one's teaching style and receiving customized support for faculty development can directly impact learner empowerment, motivation, and learning outcomes.

2. Classification of teaching Styles

Following the examination of the concept of teaching styles, the next step is to explore the classifications of teaching styles proposed in previous studies in order to determine and establish diagnostic tools for identifying teaching styles. Based on the extent to which instructors acknowledge learners' autonomy, teaching styles in the classroom can be divided according to the authority instructors hold. Anderson (1967) identified two types of instructors: those who do not recognize individual differences among learners, ignore others' autonomy, and exhibit rigid, directive, and commanding behavioral characteristics; and those who are flexible, objective, seek to establish democratic interpersonal relationships, and adapt to various situations. Axelrod (1970) categorized teaching styles into those that focus on repetitive practice, teaching and educational content, and students' thinking and learner-centered. Bennett (1976) classified teaching styles into those who prefer controlling the form of instruction and a directive role, and those who prefer ensuring student autonomy within the classroom and acting as guides to knowledge.

Fischer & Fischer (1979) classified teaching styles into six categories: Cooperative

Planner, Task-Oriented, Child-Centered, Subject-Centered, Learner-Centered, and Emotionally Stimulating. Meanwhile, Flanders (1970) categorized teaching styles based on the form of teacher language behavior, distinguishing between directive and nondirective types. The directive type refers to instructors who engage in one-way interactions such as lecturing, giving instructions, criticism, or asserting authority. On the other hand, the nondirective type refers to instructors who prefer to interact with students through feelings, acceptance, and accommodation, and who accept and utilize students' thoughts. Grasha(2002), who conducted research on teaching style diagnostic tolls, categorized into those types: expert, formal, authoritative, personal model, facilitator, and delegator.

Heimlich & Norland (1994) characterized the teaching style as one that emphasizes learners' engagement, involving them in every aspect of the lesson, such as permissive and facilitators, and as the other who focus on making sure students are getting the knowledge they need such as expert and knowledge providers. Jarvis(1985) distinguished three types of teaching; Preacher type, which is teacher-centered and preachy, where the teacher leads and students respond; Socratic type, where the teacher leads and students respond, creating a learning experience; and Facilitative type, where the teacher helps create students' learning experiences.

Lewin, Lippitt & White (1939) divided teaching styles into three categories: first, authoritarian type, in which the instructor has all the power over the class, and is characterized by evaluating learners providing praise or criticism. The second type is the laissez-faire style, where the instructor does not participate in decisions related to learning activities and does not take on the role of a class leader. This type may involve no criticism or coercion regarding learning, or no intervention at all. The last type is the democratic type, where the instructor involves students in decisions related to class and provides them with various alternatives to choose from, along with clear and objective feedback. May Oi and Stimpson (1994) suggested teaching styles into three categories: the guiding type focuses on ensuring that students are acquiring the necessary knowledge, the explanatory type centers around delivering lectures and expecting students to listen attentively, and the Inquiry type involves engaging students in participation and

conducting various activities such as role-playing or simulation learning.

Nuthall and Snook(1973) distinguished between action-oriented, discovery-learning, and rational approaches, and Robinson(1986) similarly identified charismatic, teacher- and material-oriented and child-centered. Solomon and Miller(1961) categorized as clerical, client-centered, impersonal, communicative, personal, self-involved, student-centered, protective, and stimulating.

Thelen(1967) identified four types, including the socratic type, who lies to argue, is good at making challenging statements, tends to be preoccupied with questions, and exhibits individualistic traits., the democratic type, who treats students as democratic, interdependent, and equal human beings, the apprentice type, who is the ideal model for students to emulate, the general, who demands unconditional obedience to orders and believes that rewards and punishments should be administered as the instructors see appropriate, and the coach, who emphasizes group achievement over individual and expects all students to follow instructions. Withall(1949) divided into instructor-centered and learner-centered types, and Wubbels, Creton & Hooymayers (1989) explored instructional styles, identifying directive, authoritative/affectionate, cooperative/tolerant, repressive, bureaucratic, uncertain/mechanical, aggressive/uncertain, tolerant/uncertain, and affectionate/tolerant behavior types.

Based on the extensive previous research on teaching styles, this study aims to establish teaching styles centered around educational competencies. It intends to develop tools to diagnose these styles and formulate educational programs tailored to each style to enhance the respective competencies.

Ⅲ. Research Findings

1. Establishing Teaching Styles

Previous research has shown that teaching styles were broadly categorized into instructor-centered and learner-centered. To further refine these categories and establish teaching style profiles, criteria were derived from three elements of education that reflect the actual educational context: the instructor, the students,

and the educational content. While education typically involves these three ele-ments, this study introduced additional criteria based on how the educational content is structured. Specifically, teaching styles were analyzed based on wheth-er instructors present the content uniformly or if students are involved in creat-ing tasks to be performed to their individual needs.
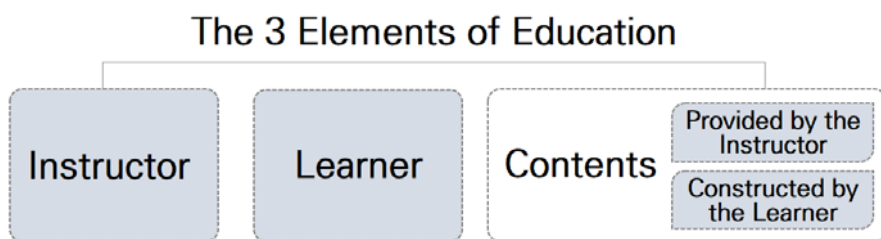
[Figure 1] The 4 Criteria for Analyzing Instructing Types

To establish the types based on this analysis, the process involved two steps. Firstly, teaching styles proposed in previous research were categorized into in-structor-centered and student-centered types, which are summarized in ⟨Table 1⟩.

⟨Table 1⟩ Primary classification: Classification of Teaching Styles by Instructor-student

Type Scholar	Instructor-centered types	Learner-centered types
Anderson (1967)	Dominant	Integrative
Axelrod (1970)	Practice-driven, Content-driven and Teacher-driven	Thinking-centered, Learner-centered
Bennett (1976)	Directive discourse	Formalized discourse
Fischer & Fischer (1979)	Task-oriented type, Subject-centered type	Cooperative planner, Child-centered, Learning-centered, Affective stimulation type
Flanders (1970)	Directive discourse	Non-directive discourse
Grasha (2002)	Expert, Formal authority figure, Individual model	Facilitator, Delegator
Heimlich & Norland (1994)	Expert, Knowledge provider	Permissive, Facilitative
Jarvis (1985)	Preaching, Socratic teaching type	Facilitative teaching type

Scholar \ Type	Instructor-centered types	Learner-centered types
Lewin, Lippitt & White(1939)	Authoritarian	Democratic
May Oi & Stimpson (1994)	Explanatory	Guidance, Inquiry
Nuthall & Snook(1973)	Behavior-Centered, Discovery-Based Learning	Rationalized
Robinson, (1986)	Lecture-centered charismatic, Teacher- and material-centered	Child-centered
Solomon & Miller (1961)	Businesslike·Objective·Impersonal, Personalized, Self-Involvement approach	Communicative, Student-centered, Protective Approach
Thelen (1967)	Apprentice, General, Coach	Socratic, Mediator
Withall (1949)	Teacher-centered	Student-centered
Wubbels, Creton & Hooymayers (1989)	Directive, Authoritarian-Friendly, Suppressive, Administrative, Uncertain-Mechanical, Aggressive-Uncertain Type	Collaborative-Tolerant, Tolerant-Uncertain, Friendly-Tolerant Type

The types identified based on the professor-centered approach were grouped into 14 categories after reorganization, while those derived from the student-centered approach were grouped into 11 categories. These categorized types were further classified into professor material presentation types and student material organization types, resulting in a secondary classification. The results are presented in ⟨Table 2⟩.

⟨Table 2⟩ Secondary Classification: Classification of Textbook-Centered Teaching Styles

Division	Coding of Previous Research Types		Presented Instructor Materials	Learner Materials Organized
Instructor-Centered	1	Repetitive practice-driven	○	
	2	Content-centered	○	
	3	Curriculum-centered	○	
	4	Task-oriented	○	○
	5	Material-centered		○
	6	Preaching	○	

Division	Coding of Previous Research Types		Presented Instructor Materials	Learner Materials Organized
	7	Expository	○	○
	8	Knowledge provider	○	
	9	Directive	○	
	10	Lecture-Centered Charismatic	○	
	11	Expert		○
	12	Discovery learning		○
	13	Socratic teaching		○
	14	Action-centered		○
Learner-Centered	15	Thinking-centered	○	○
	16	Learner-centered		○
	17	Cooperative planner	○	○
	18	Emotional stimulus	○	
	19	Permissive		○
	20	Facilitator	○	
	21	Responsive	○	
	22	Guided	○	
	23	Exploratory		○
	24	Investigative	○	○
	25	Communicative approach	○	○

The clustered teaching styles derived from the distributed teaching types in previous studies are categorized into three types based on the [Activity-Centered, Textbook-Centered] × [Teacher-Centered, Learner-Centered]. First of all, the [Textbook- and Teacher-Centered] type, which focuses on the instructor's presentation and explanation of the predetermined educational content. is named "Star Instructor" inspired by popular private tutors among the Generation MZ, emphasizing their friendly and influential teaching style.

The second type is designated as [Activity- and Learner-centered], positioned at the opposite end of the star-lecturer type. This type is adept at applying a learner-centered teaching model, designing and conducting classes in a way that places students at the core of classroom activities. The instructor of this type not only values operational competencies in managing classes but also prioritizes the ability to design classes with a learner-centered approach above all other skills,
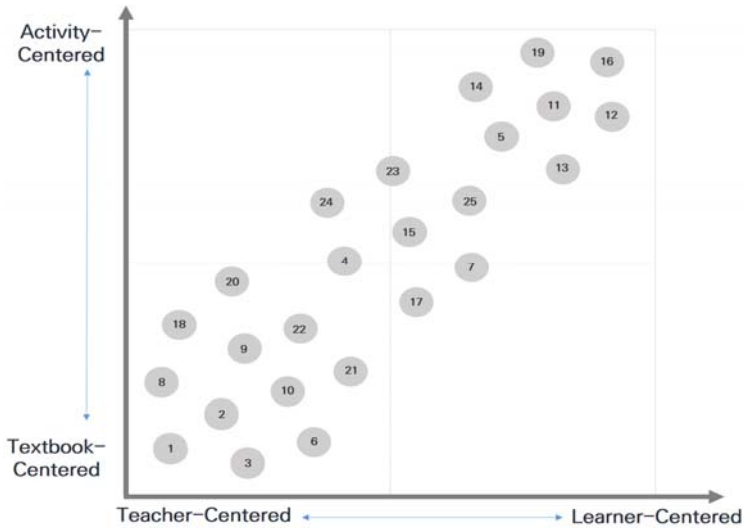
[Figure 2] Distribution of teaching styles in prior studies

hence being categorized as a designer type.

The last one is an intermediate between the first two types, where materials and activities are appropriately integrated, and both instructor- and learner-centered approaches are aptly balanced. This emphasizes the instructor's interaction with students, peer-to-peer interactions, and team-based collaborative learning. To highlight the instructor's role as a mentor actively participating in interactions, this type has been named the learning mentor type.
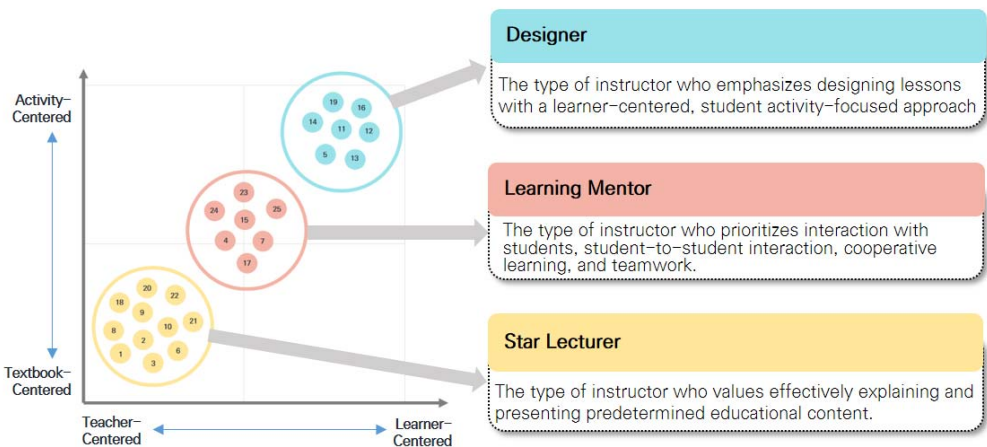
[Figure 3] The Newly Established Teaching Styles Identified through this Study

2. Establishment of the Teaching Style Diagnostic Tool

Having established the teaching styles as star-lecturer, learning mentor, and designer types, the goal is to set up a diagnostic tool to help individuals identify which of these three categories their teaching style falls into. To achieve this, the draft was developed by adapting and customizing questions based on the widely used Grasha-Riechmann's(1996) Teaching Style test to fit the three categories. An initial analysis was conducted on the existing Grasha-Riechmann tool, which consists of 40 questions divided among five categories, with eight questions per category. When linked to the three defined types, the analysis can be summarized as shown in ⟨Table 3⟩.

⟨Table 3⟩ Catering and Screening Questions for Grasha-Riechmann Tool

Grasha-Riechmann Style	Question Numbers	LMD Teachign Style	Selected
Strict	1, 6, 11, 16, 21, 26, 31, 36	Star Lecturer	1, 6, 11, 16 21, 27, 31, 32
Professional	2, 7, 12, 17, 22, 27, 32, 37		
Role model	3, 8, 13, 18, 23, 28, 33, 38	Learning Mentor	3, 8, 13, 18, 23, 28, 33, 38,
Facilitator	4, 9, 14, 19, 24, 29, 34, 39	Designer	9, 10, 14, 15 24, 29, 30, 39
Delegate	5, 10, 15, 20 25, 30, 35, 40		

A total of 24 questions were selected, with 8 questions per type, and the they were modified to suit the newly structured LMD (Lecturer-Mentor-Designer) teaching styles, resulting in the development of a draft as shown in ⟨Table 4⟩.

⟨Table 4⟩ Overview of Draft Teaching Style Diagnostic Questions for LMD Teaching Styles

Draft		
Star Lecturer	Learning Mentor	Designer
In the content that needs to be learned, facts, concepts, and principles of knowledge are the most important things	I aim to demonstrate as a model through my words and actions during class, how to think about the subject	I advise students on how to excel in individual and team projects.

Draft		
that students must know.	matter.	
Teaching the knowledge and expertise that students need to learn is very important to me.	I encourage my students to try following the examples I present in my subject.	A key activity in class is to enable students to develop their own thoughts about the content being taught.
Teaching about the class topic is important because it enables students to have diverse perspectives on the subject matter and related fields.	I show students the methods and scope to ensure they can learn all the content of the class.	I design and facilitate team-based activities to develop students' critical thinking skills.
I want to ensure that students are fully prepared to enter society with a strong foundation in this subject's field.	I effectively use examples gained from my personal experience along with the course materials.	I provide students with the opportunity to have self-directed learning experiences in class.
How and what to teach in each class is an important aspect for me.	I demonstrate to students how to apply various principles and concepts.	I believe it is important for students to take an active and responsible role in their learning during the class.
My course has specific goals that students need to achieve in each class session.	I frequently provide comments and feedback on their assignment results.	In class, I ask students for their opinions on teaching methods and content, and incorporate their thoughts.
Students consider me a repository of knowledge, teaching them the concepts and principles they need.	By the end of the semester, many students start to think about the class content similarly to how I do.	I encourage students in class to set their plans for completing individual activities or group projects on their own.
What students are required to do in my class is clearly defined in the syllabus.	When describing me, students would portray me as a coach who excels at correcting issues in their thoughts and actions.	In my class, I offer a variety of assignments and activities that students can choose to engage in.

3. Development Training Curriculum by Teaching Style

This study aims to identify the teaching style that best suits each instructor and to develop and present a curriculum for faculty development tailored to that

style. The curriculum was developed for each type, consisting of a common curriculum necessary for all types and a specialized curriculum tailored to each specific type.

The 'Common Curriculum' comprises courses necessary for designing, operating, and evaluating classes as an instructor. Thus, it is divided into the "Class Design and Operation" track and the "Understanding Learners" track, with relevant courses placed under each track. Additionally, the 'Type-Specific Curriculum' includes individual courses for the star-lecturer, learning mentor, and designer types, completing the draft of the curriculum. The detailed curriculum is as shown in ⟨Table 5⟩.

⟨Table 5⟩ Draft Curriculum of by LMD Teaching Style

Division	Tracks	Course Draft	Detailed Session	Instructional Methods
Common Curriculum	Design & Implementation	Introduction to Instructional Design and Teaching Methods	Diverse Perspectives on Teaching-Learning Methods	Lecture
			Introduction to Instructional Design Theories and Teaching Methods	Lecture
		Student Evaluation Criteria and Methods	Competence and Performance Assessment	Lecture
		Introduction to EdTech	Understanding Future Education Changes and Future Learners	Lecture
			The Future Classroom and Learning Strategies	Lecture/Practical Training
			Utilization of EdTech and Lesson Planning	Lecture/Practical Training
		Development of Lecture Materials	Consulting on the Development of Lecture Materials According to the Class	Consulting
		Instructional Design Consulting	Before Consulting	Self-Preparation
			During Consulting	Consulting
			After Consulting	Practical Training
	Understanding	Understanding and	New Generations of Learners	Lecture
			Learner Analysis	Lecture/Pract

Division	Tracks	Course Draft	Detailed Session	Instructional Methods
Learners		Characteristics of New Generations		ical Training
		Basics of Coaching and Counseling Competence Cultivation	Psychology of College Students	Lecture
			Basics of Coaching and Counseling	Lecture
Type-Specific Curriculum	Star Lecturer	Improvement of Instructor Image	Enhancing Lecturing Skills	Lecture
		Speech Practice	Microteaching	Practical Training
	Learning Mentor	Techniques for Discussion Activities and Question Feedback	Discussion and Feedback Strategies	Lecture
			Application of Discussion and Feedback Strategies	Practical Training
		Advanced Cultivation of Coaching/Counseling Competence	Establishing Coaching/Counseling Plans	Practical Training
			Coaching/Counseling Demonstration and Feedback	Practical Training
	Designer	Creating a Classroom Atmosphere	Autonomy and Positive Emotions in the Classroom	Lecture
			Techniques and Tools for Creating Classroom Atmosphere	Lecture
			Practical Implementation of Creating Classroom Atmosphere	Practical Training
		Facilitating Team Activities	Concept of Facilitation	Lecture
			Design of Processes and Activities	Practical Training
			Facilitator's Skills	Practical Training
			Design Practice and Simulation	Practical Training
		Advanced Cultivation of Coaching/Couns	Establishing Coaching/Counseling Plans	Practical Training
			Coaching/Counseling	Practical

Division	Tracks	Course Draft	Detailed Session	Instructional Methods
		eling Competence	Demonstration and Feedback	Training

4. Development Training Curriculum by Teaching Style

The developed LMD teaching styles, the diagnostic tool for identifying these types, and type-specific faculty training curriculum were validated through the Delphi method. The Delphi panel consisted of 10 full-time and part-time faculty members currently employed at universities, seven of them majored in education, and the rest of them were from other disciplines, ranging in age from 30s to 60s, with an average in the 40s. Careers of teaching at higher education of them caried from 5 to 25 years, with an average of about 15 years. The Delphi method involved face-to-face meetings and discussions, through which the results of the validity verification were shared, and appropriate revisions and improvements were made.

The process was conducted in three parts, asking about the appropriateness of the LMD teaching types, understanding and feasibility of the diagnostic tool, and the expected effects of using the tool, all of which were validated as credible. The validity of the 24 items in the teaching type diagnostic tool was verified in the second part, and some items were modified after discussion due to low validity. The last part validated the appropriateness, understanding, and expected effects of the designed common curriculum and type-specific curriculum, confirming their validity. However, for the curricula, while the overall structure, subjects, and content were validated, it was decided to relocate the instructional design consulting process from the common curriculum to the type-specific curricula, adjusting it to fit each type more appropriately with tailored instructional design consulting.

⟨Table 6⟩ Validation of LMD Teaching Styles, Diagnostic Tools, and Curriculum by Type

Division		N	M	SD	Md	CVR	Result
Validation of LMD Teaching Types and	Appropriateness of the Type	10	4.5	0.7	5	0.8	Validate
	Understanding of the Diagnostic Tool	10	4.4	0.5	4	1.0	Validate

	Division	N	M	SD	Md	CVR	Result
Diagnostic Tool	Feasibility of the Diagnostic Tool	10	4.7	0.5	5	1.0	Validate
	Expected Effects of the Diagnostic Tool	10	4.7	0.5	5	1.0	Validate
Validation of Question-by-question of the Diagnostic Tool	Type L, Item 1	10	4.8	0.4	5.0	1.0	Validate
	Type L, Item 2	10	4.8	0.4	5.0	1.0	Validate
	Type L, Item 3	10	4.5	0.7	5.0	0.8	Validate
	Type L, Item 4	10	4.5	1.0	5.0	0.8	Validate
	Type L, Item 5	10	4.6	0.5	5.0	1.0	Validate
	Type L, Item 6	10	4.2	0.8	4.0	0.6	Needs Modified
	Type L, Item 7	10	4.7	0.7	5.0	0.8	Needs Modified
	Type L, Item 8	10	4.2	0.6	4.0	0.8	Validate
	Type M, Item 1	10	4.3	0.7	4.0	0.8	Needs Modified
	Type M, Item 2	10	4.4	0.5	4.0	1.0	Needs Modified
	Type M, Item 3	10	4.1	0.7	4.0	0.6	Needs Modified
	Type M, Item 4	10	4.1	0.3	4.0	1.0	Validate
	Type M, Item 5	10	4.2	0.4	4.0	1.0	Needs Modified
	Type M, Item 6	10	4.8	0.6	5.0	0.8	Validate
	Type M, Item 7	10	4.1	0.9	4.0	0.4	Needs Modified
	Type M, Item 8	10	4.5	0.8	5.0	0.6	Needs Modified
	Type D, Item 1	10	4.6	1.0	5.0	0.8	Needs Modified
	Type D, Item 2	10	4.4	0.7	4.5	0.8	Validate
	Type D, Item 3	10	4.6	0.5	5.0	1.0	Validate
	Type D, Item 4	10	4.8	0.4	5.0	1.0	Validate
	Type D, Item 5	10	4.7	0.5	5.0	1.0	Validate
	Type D, Item 6	10	4.6	0.7	5.0	0.8	Validate
	Type D, Item 7	10	4.8	0.4	5.0	1.0	Validate
	Type D, Item 8	10	4.8	0.4	5.0	1.0	Validate
Validation of Type-Specific Curriculum	Appropriateness of a Common Curriculum	10	4.9	0.3	5.0	1.0	Validate
	Appropriateness of a Curriculum of Star Lecturer	10	4.9	0.3	5.0	1.0	Validate
	Appropriateness of a Curriculum of Learning Mentor	10	4.9	0.3	5.0	1.0	Validate
	Appropriateness of a Curriculum of Designer	10	4.7	0.5	5.0	1.0	Validate
	Understanding of the Curriculum	10	4.8	0.4	5.0	1.0	Validate
	Feasibility of the Curriculum	10	4.8	0.4	5.0	1.0	Validate

Division		N	M	SD	Md	CVR	Result
	Implementation						
	Expected Outcomes of the Curriculum	10	4.9	0.3	5.0	1.0	Validate

5. Confirmation of Diagnostic Tools and Curriculum by Styles

The diagnostic tool for teaching styles, which has been revised and finalized through validation, is confirmed as presented in the table below.

〈Table 7〉 Diagnostic Tools by LMD Teaching Styles

Division	Question
Star Lecturer	The most important aspect of the content that students need to learn is knowledge of facts, concepts, and principles.
	Teaching students the knowledge and expertise they need to learn is very important to me.
	Teaching about the subject matter is important to me because it allows students to develop diverse perspectives on the topic and its related fields.
	I want to ensure that students are adequately prepared to enter society in the field of this subject area.
	How and what to teach during each class session is crucial to me.
	In my subject, there are specific goals that students need to achieve during each class session.
	I expect students to perceive me as a source of knowledge, providing them with the necessary concepts and principles.
	The expectations of what students should do in my class are clearly defined in the course syllabus.
Learning Mentor	I encourage peer learning to take place through communication among students during class.
	I believe that active interaction among students leads to effective classroom instruction.
	I strive to incorporate teamwork into every lesson whenever possible.
	I effectively incorporate examples from my personal experiences along with instructional materials in my teaching.
	I provide students with various principles, concepts, and methods so that they can apply them effectively.
	I frequently provide comments and feedback on students' assignment performances.
	By the end of the semester, many students hope that their perspectives align with mine regarding course content.
	They want to describe me as a mentor who effectively corrects issues in their thinking and behavior.

Division	Question
Designer	I support students in understanding how to excel in both individual and team projects.
	I consider activities that foster students' development of their own thoughts on course content to be important in class.
	I design and facilitate team-based activities to develop students' critical thinking skills.
	I encourage students to have learning experiences where they take initiative in class.
	I believe it's important for students to take a proactive role in their learning and take responsibility for it.
	I ask students for their opinions on class methods and content and incorporate their thoughts into the teaching process.
	I guide students in setting plans for completing individual tasks or group projects on their own.
	In my class, I offer a variety of assignments and activities for students to choose from.

When summarized, the common course, type-specific courses, tracks within courses, and course-specific educational content according to the teaching types of this study are presented in Table 8.

〈Table 8〉 Finalized Curriculum for each LMD teaching Style

Division	Track	Courses	Detailed Session	Instructional Methods	Duration	Course Content
Common Curriculum	Design & Implem-entation	Introduction to Instructional Design and Teaching Methods	Diverse Perspectives on Teaching-Learning Methods	Lecture	50min	-Rethinking Education in Terms of Meaning -Objectivism and Constructivism -Teacher-Centered Teaching Methods and Examples -Learner-Centered Teaching Methods and Examples
			Introduction to Instructional Design Theories and Teaching Methods	Lecture	50min	-Introduction to Fundamentals of Instructional Design -Introduction to ADDIE Model and Dick & Carey Model -Introduction to Learner-Centered Teaching Models -Introduction to Contemporary Teaching Methods
		Student Evaluation Criteria	Competence and Performance Assessment	Lecture	50min	-Concept of Assessment -Competencies and Assessment -Performance Assessment as Practical Assessment of

Divi sion	Track	Courses	Detailed Session	Instruction al Methods	Durati on	Course Content
		and Methods				Competencies -Case Studies on Performance Assessment within Universities
		Introduc tion to EduTec h	Understandi ng Future Education Changes and Future Learners	Lecture	50min	-The 4th Industrial Revolution and Changes in Classroom Environment -Who Are the Future Learners? -Characteristics of Future Learners and the Significance of Learning -Essential Competencies of Future Learners: Creativity and Digital Literacy
			The Future Classroom and Learning Strategies	Lecture/Pr actical Training	75min	-Online Education vs. Offline Education, and Blended Learning -Instructional Design Strategies Suitable for Different Types of Classes -Learner-Centered Course Design -Creative Experiential-Based Course Design
			Utilization of EdTech and Lesson Planning	Lecture/Pr actical Training	75min	-Classroom Transformation through EdTech -Gamification and EdTech -Metaverse and EdTech -EdTech Experiences and Application in Classroom
		Develop ment of Lecture Material s	Consulting on the Developmen t of Lecture Materials According to the Class	Consulting	100mi n	-Collection of Key Teaching Materials Used in Class -Consulting for Development and Improvement of Teaching Materials -Introduction of Various Forms of Teaching Materials and Media for Production -Development and Review of Teaching Materials
	Under sta-n ding Learn ers	Underst anding and Charact eristics of New Generat ions	New Generations of Learners	Lecture	50min	-Understanding of Contemporary Society -Characteristics of the New Generation -Understanding the New Generation as Learners
			Learner Analysis	Lecture/Pr actical Training	75min	-Overview of Learner Analysis -Content of Learner Analysis -Methods and Practice of Learner Analysis
		Basics of Coachin g and	Psychology of College Students	Lecture	50min	-Importance of Faculty Advising -Understanding College Students -Psychological Characteristics of College Students

Division	Track	Courses	Detailed Session	Instructional Methods	Duration	Course Content
		Counseling Competence Cultivation	Basics of Coaching and Counseling	Lecture	50min	-Difference between Counseling, Mentoring, Consulting, Teaching, Training, Coaching, and Advising -Attitude of Coaches/Counselors -Process and Techniques of Coaching/Counseling
Type-Specific Curriculum	Star Lecturer	Instructional Design Consulting	Before Consulting	Self-Preparation	-	-Selection of Consulting Courses and Pre-Consultation Research
			During Consulting	Consulting	50min	-Personalized Consulting for Lecture-Driven Instruction
			After Consulting	Practical Training	50min	-Feedback on Improving Lecture-Driven Instruction
		Improvement of Instructor Image	Enhancing Lecturing Skills	Lecture	50min	-Attractive Instructor Appearance and Demeanor for Instructors -Techniques for Effective Public Speaking and Presentation Materials to Enhance Speech Delivery -Self-Assessment Checklist and Planning for Personal Improvement
		Speech Practice	Microteaching	Practical Training	100min	-Designing Downsized Course Content, number of Students, and Class Time -Observing and Analyzing Instructor's Course Content and Providing Support for Improvement
	Learning Mentor	Instructional Design Consulting	Before Consulting	Self-Preparation	-	-Selection of Counseling Courses and Preliminary Research on Counseling
			During Consulting	Consulting	50min	-Personalized Consulting for Cooperative Learning and Team-Based Learning Styles
			After Consulting	Practical Training	50min	-Feedback on Enhancing Cooperative Learning and Team-Based Learning Styles
		Techniques for Discussion Activities and Question Feedback	Discussion and Feedback Strategies	Lecture	50min	-Types and Characteristics of Discussion Strategies -Introduction Strategies and Feedback Strategies -Examples of Utilization in Classroom Settings
			Application of Discussion and Feedback Strategies	Practical Training	50min	-Designing Discussions for Your Own Classes -Practice Facilitating Planned Discussions and Demonstrating Opening Strategies -Facilitation Exercises
		Advance	Establishing	Practical	50min	-Learning Coaching and

Divi sion	Track	Courses	Detailed Session	Instruction al Methods	Durati on	Course Content
		d Cultivati on of Coachin g/Couns eling Compet ence	Coaching/C ounseling Plans	Training		Counseling Techniques -Developing Coaching and Counseling Plans
			Coaching/C ounseling Demonstrati on and Feedback	Practical Training	50min	-Practicing Group Coaching and Counseling -Recording Coaching and Counseling Sessions -Conducting Coaching and Counseling Demonstrations with Feedback Forms
	Desig ner	Instructi onal Design Consulti ng	Before Consulting	Self-Prepa ration	-	-Selection of Consulting Courses and Preliminary Research on Consulting
			During Consulting	Consulting	50min	-Personalized Consulting for Learner-Centered Instruction Models
			After Consulting	Practical Training	100mi n	-Feedback on Improving Lecture-Centered Instruction Based on Learner-Centered Model
		Creating a Classroo m Atmosp here	Autonomy and Positive Emotions in the Classroom	Lecture	50min	-Enhancing Learner Engagement in Various Areas such as Assignments, Time Management, Techniques, and Teamwork -Focus on Creating a Positive Learning Atmosphere
			Techniques and Tools for Creating Classroom Atmosphere	Lecture	50min	-Introduction of the Instructor and Learner Analysis -Explanation of Class Time Utilization -Description of Teaching Strategies and Pedagogy
			Practical Implementat ion of Creating Classroom Atmosphere	Practical Training	50min	-Demonstration and Discussion of Content
		Facilitat ing Team Activitie s	Concept of Facilitation	Lecture	30min	-Understanding Facilitation -Principles of Education and Learning Motivation -The Role of the Facilitator -Understanding the Powerful Learning Model
			Design of Processes and Activities	Practical Training	50min	-Theories and Models of Course Design -Characteristics and Design of Educational Types -Facilitation Tools and Methods by

Division	Track	Courses	Detailed Session	Instructional Methods	Duration	Course Content
						Types -Practical Exercises and Feedback on Tool Usage per Type
			Facilitator's Skills	Practical Training	50min	-Questioning Skills to Expand Thinking -Empathy to Foster Engagement -Communication Skills to Enhance Engagement -Energy to Foster a Learning Atmosphere
			Design Practice and Simulation	Practical Training	100min	-Practice in Designing Powerful Learning -Simulation and Feedback Sessions -Developing an Action Plan for Self-Improvement
		Advanced Cultivation of Coaching/Counseling Competence	Establishing Coaching/Counseling Plans	Practical Training	50min	-Acquiring Coaching and Counseling Techniques -Establishing Coaching and Counseling Plans
			Coaching/Counseling Demonstration and Feedback	Practical Training	50min	-Practicing Group Coaching and Counseling Sessions -Documenting Coaching and Counseling Sessions -Conducting Coaching and Counseling Demonstrations with Feedback Recordkeeping

Ⅳ. Conclusion

This research aims to develop faculty training program according to individual teaching style to enhance the educational competencies of professors, a crucial factor in improving the quality in higher education. To achieve this, three types of teaching styles grounded in educational competencies by reviewing and analyzing various previous studies related to teaching styles based on the criteria for determining teaching styles. 'Star Lecturer' type, which focuses on textbooks and instructor-led teaching, is considered important for effectively explaining and presenting predetermined educational content. The 'Learning Mentor' type is characterized by the desire for appropriate alignment between textbooks, activities, and a balance between instructor-led and learner-centered approaches.

Last, the 'Designer' type is capable of applying learner-centered teaching models and designing lessons to operate with learner activity at the forefront.

To ensure personalized education, it is essential to identify which type of instructor an individual corresponds to among the three types mentioned earlier. Therefore, in this study, a diagnostic tool was developed by modifying and improving existing teaching style assessment tools that have been widely used in order to assess teaching styles based on educational competency, studied in the research. Furthermore, the faculty training curriculum, divided into common courses and type-specific courses, were developed for each type. The common courses encompass educational content necessary for all instructor types, including principles of instructional design and teaching methods, student assessment criteria and methods, introduction to educational technology utilization, and others. Moreover, type-specific courses include reinterpreting the meaning of education, objectivism and constructivism, case studies of instructor-centered and learner-centered teaching methods, and introduction to the latest teaching methodologies with various education methods such as lectures, practical sessions, and consulting. Additionally, the detailed information of every session under each course, the education objectives, methods, duration, and specific contents, is suggested. To verify and finalize what had developed, diagnostic tools, and draft curriculum, a Delphi study involving 10 experts, was conducted. Through this validating process, all drafts were revised and finalized, and the research was concluded.

The researchers expect that customized curriculum based on each teaching style will enhance individual instructors' capabilities in utilizing preferred teaching methods, thus enabling them to develop their strengths. Instructors will be able to improve their teaching styles effectively, leading to an advancement of their teaching competencies. Ultimately, this reinforcement in teaching quality will contribute to enhancing the overall quality of education at universities. However, to achieve the invigorate of training curriculum and ensure positive outcomes, additional research is necessary to build efficient web-based operating system and establish management plan to motivate participation and to share and spread effectiveness of these curriculum among instructors.

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