Article

Exploring Learning Effectiveness of Narrative Curriculum in Guiding Design Concepts for Southeast Asian Students

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Abstract: Owing to the active promotion of Taiwan's New Southbound Policy, students from Southeast Asian countries account for the highest proportion of international students. However, in their communication in Mandarin Chinese, there exists a significant disparity in their understanding. Thus, this study was conducted to find a way to enhance the comprehension and creativity of Southeast Asian students using a narrative curriculum to a basic graphic design course. The questionnaire survey and analysis results of student performance showed that the integration of the narrative curriculum into teaching had positive effects on their learning effectiveness. An increase in the vocabulary of the students was observed in design concepts, and their visual thinking showed diverse perspectives. This approach stimulated students' integrative thinking abilities, reduced their apprehension of design tasks, and boosted their confidence in design projects.

1. Introduction

In August 2016, the Taiwanese government introduced the "New Southbound Policy". This initiative centered on talent cultivation through the recruitment of students from Southeast Asian countries and the exchange of scholars, students, and industry professionals. Its ultimate goal is to share talent resources with partner nations (Executive Yuan, 2016). Taiwan's higher education institutions have longed for international expansion with global recruitment. Factors compelling many students to study abroad include opportunities to explore different cultures, gain fresh perspectives, form new friendships, and enhance their cross-cultural knowledge and skills (Andrade, 2006; McClure, 2007). According to the Ministry of Education's statistics on foreign students in tertiary institutions from the 2021−2023 academic years, the number of students from Southeast Asian countries in Taiwan has been increasing. In 2011, 18,000 international students from these countries studied in Taiwan. By 2019, the number rose to 59,000. Despite a drop to 55,000 in 2020 due to border restrictions caused by the COVID-19 pandemic, students from the region accounted for 56% of all international students in Taiwan. The number rebounded to 66,000 in 2022. The top three countries of origin for those students were Vietnam, Malaysia, and Indonesia with an annual growth rate in the number of 25.6%. The students from the three countries comprised 80% of the total international students in Taiwan. In the last five years, Southeast Asian students tend to choose arts and design-related programs (Ministry of Education Statistics, 2023).

Classroom observations have shown that although Southeast Asian students use Mandarin for daily communication, the majority have not received formal Mandarin language education. This has led to a wide range of proficiency levels of the students in Mandarin. It has been observed that students are struggling with vocabulary related to design tasks, leading to deviations from the theme and limits in the expression of creative thinking. Students frequently encounter difficulties in aesthetics, layout, composition, and proportion which often frustrate them to lose confidence as they are unable to grasp the direction of the design during course exploration. In addition to teaching professional software and design skills, classroom discussions are also important to help students recognize and understand design principles and methodologies. However, due to linguistic comprehension problems, Southeast Asian students often face challenges in production direction, off-topic and literal designs, unidimensional thinking, imagination, and creativity, and lack confidence in addressing the unknowns of design tasks. These challenges hinder the successful transmission of basic design knowledge limiting effective learning outcomes and causing subsequent errors. All these are closely

related to narrative abilities. Therefore, it is necessary to research and explore how to enhance the comprehension and creativity of Southeast Asian students in narrative courses and improve their learning outcomes.

Narratives are present across various timeframes and human activities, serving education, promoting culture, and recording historical events (Colins & Cooper, 1997). Storytelling is an intrinsic communication method as an amalgamation of aesthetics and science. Its versatile components are applicable in various courses, providing explanations and configurations. It can foster dialogues and increase students' concentration as an effective teaching medium (Tseng, 2008). Narrative courses need to integrate problem-focused teaching practices and combine theory with practical implementation. Students through the process of inquiry. Learning motivation and favorable learning outcomes are enhanced in the courses, too (Chen, 2018). The guidance provided by narratives through various creative expressions in text and imagery enables learners to experience the context of stories. The creative stimulation and techniques employed in teaching ignite curiosity, imagination, and creativity, effectively increasing learner participation and learning effectiveness. Additionally, this approach enriches the teaching experience (Hsiao & Hsu, 2010). Under the guidance of instructors, interactive and explorative learning approaches help students understand design problems and solutions based on integrated design skills. Such pedagogies ensure that students are well-versed in the creative thinking process of design projects as an essential aspect of design-oriented learning (Lo, 2021).

Narratives exist in the form of discourse and permeate throughout different temporal dimensions and human activities. Their content encompasses the prosaic and the story. Narrating stories allows for the organized construction of context, sequentially recording events over time, and serves as a tool for instruction and promoting media to transmit culture (Polkinghorne, 1995; Colins & Cooper, 1997). Narratives represent a primitive form of communication and are suitable for various courses and audiences, introducing or explanating concepts and configurations. In teaching, they stimulate questions and dialogues. Delivering content in the form of a story can increase students' concentration and enhance their learning. It serves as a highly effective instructional medium (Tseng, 2008). A narrative is essentially storytelling to convey life and actions in a story-like mode, incorporating structural and dramatic elements with protagonists and plots (Liu, 2008).

In 2000, Clandinin and Connelly proposed that the methodology for researching experience must be termed "narrative inquiry." This inquiry encompasses three dimensions: (1) interaction-interaction patterns that include individual and societal intrinsic and extrinsic behaviors, (2) temporality bridging the past, present, and future, and (3) the spatial context or locale of situations. Narrative inquiry is focused on discussing life experiences as the core of the story. In 2007, Pinnegar and Daynes introduced four perspectives on narrative inquiry for its operational direction and thought processes: (1) transforming the relationship between the researcher and the researched, (2) substituting research data with lexical content rather than numerical information, (3) shifting research from being general to being specific, and (4) enhancing the opportunity for epistemological and cognitive levels to be recognized.

The essence of narrative inquiry in teaching is the story. In selecting a story, the narration makes the story's content the central axis for course exploration to construct narrative textual courses (Tseng, 2008). Learning through narrative curriculums facilitates students' understanding of more abstract courses and meaningful journeys through narratives and helps them identify their role in the narrative (Bostrom, 2008). The facets of a story include communication, reflection, planning, hope, and fear. A compelling story acts as a driving force for change and persuasion (Grugeon & Gardner, 2000). The two utilities of stories are as follows: (1) cognitive function: participation through stories facilitates becoming a member of a societal group, quickly understanding new worlds, and (2) transformation function: the potential to alter ideologies, garnering fresh perspectives, embodying an allegory (Jackson, 1995). The ontology of narrative courses must be stories with diverse presentations such as text, sound, images, films, animations, and other media. Moreover, they must represent genuine texts rather than specific ones for a particular course (Hsu, 2006). The narrative course, focusing on the story for exploration, derives context from story settings, conceptualizes new and old knowledge, and integrates life experiences to construct a comprehensive learning pathway.

In 1997, Lauritzen and Jaeger posited that integrating learning processes through stories allows students to engage in iterative thinking within the story's context, identifying problems, taking action, and resolving issues. Scholars proposed a planning model for narrative courses comprising five elements: (1) context: establishing settings to link stories, adding personal experiences to create new meanings and form rules, (2) inquiries: initiating questions, exploring them, and verifying their alignment with objectives, (3) goal filter: serving as a reflection to ensure questions remain in context, (4) explorations: learners conduct investigations, studies, analyses, and seek opportunities in new fields, and (5) culminations: sharing the outcomes post-activities, presenting findings, and interacting with others. In summary, narrative courses enable teachers and students to collaboratively explore stories and build meaningful learning journeys. Under teachers' guidance, students comprehend contexts, integrate personal experiences, organize concepts post-internalization, acquire new knowledge, and enhance problem-solving capabilities. Thus, in addition to emphasizing participation and interaction, narrative courses accentuate exploratory learning opportunities.

Learning outcomes are benchmarks and criteria to refine their teaching methods, enhance students' learning states, and comprehend their academic performance (Guay, Ratelle & Chanal, 2008). Factors impacting learning outcomes are evaluated across

the following three dimensions: (1) learning content: tailoring content based on learners' abilities, (2) learning arrangement: enabling joyful learning experiences where students can discover and construct new knowledge, interact with groups, receive feedback, and effectively employ learning strategies, (3) learning environment: where learners feel positive and goal-oriented atmosphere (Chiu, 2001). In the United States, scholars such as Bloom et al. (1956) highlighted that educational goals, through multi-dimensional observations, need to discern differences in learning outcomes across three key domains: (1) cognitive domain: comprehension and application of prior and new knowledge, as well as problem-solving capabilities, (2) psychomotor domain: acquired abilities and skills, physical actions such as dancing, playing an instrument, or shooting a basketball, and (3) affective domain: psychological thoughts, attitudes, and emotions elicited by external stimuli, which has been widely applied in categorizing academic performance.

Based on the previous research, it was found that learning outcomes encompass a myriad of dimensions such as motivation, status, process, interest, results, satisfaction, theoretical frameworks, capability enhancement, application of professional skills, cognitive shifts, curriculum structure, educators' instructional satisfaction, utilization of pedagogical resources, and degree of student engagement. In the realm of pedagogy, learning outcomes are an essential metric in determining the appropriateness of the content. Through systematic assessment, educators can measure the effectiveness of their instruction and gauge student learning achievements, thereby evaluating the level of validation for their instructional methodologies.

This research was carried out based on the narrative curriculum of Lauritzen and Jaeger (1997) and the theoretical foundations of the narrative of Jackson (1995). Given the perceived lack of creativity of Southeast Asian students in design disciplines, additional exemplary observation items were incorporated into this narrative curriculum model. In this research, the application of narrative courses in design education was explored to propose the design course concepts through narratives and plans of learning programs, examine whether narrative courses enhanced comprehension and creativity, and assess if narrative courses increased Southeast Asian students' interest and confidence in design. It was also investigated to find the use of narrative courses in design education and how to improve the learning outcomes of Southeast Asian students. Focusing on the implementation of narrative courses in graphic design education, we evaluated their learning outcomes and determined if narratives enhanced their academic performance. The research was concluded with practical teaching scenarios, offering insights and suggestions for design courses tailored for Southeast Asian students.

2. Materials and Methods

This research was conducted based on the theories of cognitive, affective, and psychomotor domains of learning outcomes proposed by Bloom and other scholars who evaluated the learning process at various stages of instruction. The assessment was conducted to assess the learning outcomes of Southeast Asian students in a narrative-based instructional model to empower the students to independently understand, reflect, and subsequently extend their design creativity. Such insights were expected to inform pedagogical reflections, provide feedback, and suggest improvements in teaching methods. The evaluation criteria for learning outcomes in this research were determined as follows: (1) course level: curriculum content, enhancement of cognition and skills, and capabilities gained from the course, and (2) learning level: post-course learning status and reactions, course scheduling, post-course self-assessment, and course satisfaction. From these criteria, we investigated whether a narrative curriculum in design instruction boosted the understanding, creativity, and confidence of Southeast Asian students. The main research method included comparative research, questionnaire surveys, and content analysis. Initially, narrative-related theories and studies were reviewed through a literature analysis to construct a teaching model tailored to the needs of Southeast Asian students. In a practical classroom setting, conceptual sketches and design philosophies by students at various design levels and tasks were analyzed to observe the differences in understanding and creativity before and after the narrative curriculum. Following the implementation of the instructional strategies, a questionnaire survey was conducted. The data was then cross-analyzed to understand how the capability and learning outcomes of Southeast Asian students were enhanced and to evaluate the feasibility of the proposed teaching approach.

2.1. Participants

We invited first-year Southeast Asian students from the design department of a university located in the northern region of Taiwan. The foundational computer graphics course, a mandatory subject for first-year students, was chosen for this research. The participans comprised 43 Malaysian, 3 Indonesian, 2 Vietnamese, and 8 Burmese, totaling 56 (Table 1). At the beginning of the course, a questionnaire survey was conducted to gather information about the backgrounds, language proficiency, and prior design learning experiences of the participants. Nine were primarily taught in Mandarin, and nine had independently studied or taken supplementary Mandarin courses (Table 2). Regarding prior training in design, one student had taken design-related courses, three had attended supplementary design lessons, and five had self-studied design-related subjects. The survey results indicated various proficiency in Mandarin among the participants with most lacking foundational language knowledge (Tables 1 and 2).

Table 1. Background Survey of Participants (Language Abilities).

Background	Malaysia (N = 43)	Indonesia (N = 3)	Vietnam (N = 2)	Myanmar (N = 8)
Was Mandarin the primary language of instruction in high school? (Yes/No)	5/38	0/3	0/2	4/4
Have you self-studied or taken Mandarin courses outside of school? (Yes/No)	0/43	3/0	2/0	4/4

[1]Table 1 presents a survey of language proficiency comprising two questions, covering participants from four countries: Malaysia, Indonesia, Myanmar, and Vietnam. The table includes the number of respondents from each country. The figures on the left and right sides indicate the number of people who answered yes or no, respectively.

Table 2. Background Survey of Participants (Design Skills)

Survey Question	Malaysia (N = 43)	Indonesia (N = 3)	Vietnam (N = 2)	Myanmar (N = 8)
Have you taken any design-related courses? (Yes/No)	1/42	0/3	0/2	0/8
Have you taken computer graphics software courses outside of school? (Yes/No)	3/40	0/3	0/2	0/8
Have you self-studied computer graphics software? (Yes/No)	5/38	0/3	0/2	0/8

[2]As following Table 1, Table 2 presents a survey of three design-related skills. The numbers on the left and right sides indicate the number of respondents who answered yes or no, respectively.

2.2. Instructional Implementation of Narrative Curriculum

To determine whether the integration of a narrative curriculum into the instructional setting enhanced the design learning outcomes of Southeast Asian students, a phased approach was implemented throughout the semester. The semester consisted of eighteen weeks. The initial six weeks were dedicated to software and technical learning. Beginning in the seventh week, the narrative curriculum was introduced. From the seventh to the tenth week, comprehension was focused on. From the eleventh to the fourteenth week, the emphasis shifted to cultivating creativity. The final phase, from the fifteenth to the eighteenth week, centered on integrated training in comprehension and creativity for the previous twelve weeks. Every four weeks, a cycle was completed in which four design tasks were assigned. These tasks were based on key themes in campus advocacy, namely: traffic safety poster design, environmental protection poster design, and information security poster design. Students were assigned different design tasks in each cycle with the traffic safety poster assigned twice (design tasks 1 and 4). The first assignment was given before the narrative curriculum was rolled out, while the latter was assigned after the comprehensive narrative instruction. The outcomes of the same design task were compared as pre- and post-instructional outcomes in this research.

Incorporating the literature review result and the researchers' teaching experience, a comprehensive model for narrative curriculum in instructional design was constructed. Based on the narrative curriculum plans proposed by Lauritzen and Jaeger (1997) and the cognitive and transformative functions of narrative (Jackson, 1995), we focused on the students as the target audience and the characteristics of design disciplines. The narrative curriculum teaching model was designed to integrate the narrative curriculum plans and functions and implement staged instruction in the classroom. Additionally, based on the observations of Southeast Asian students' design projects, these students were found to rely on intuitive and concrete approaches in their design tasks and lack creativity and imagination. Therefore, we incorporated example observation elements into the teaching model with example explanations to provide the students with more visual sensory stimuli for creativity. Furthermore, we introduce training and teaching cores into the curriculum to enhance knowledge and skills and thereby promote deeper learning based on comprehension, exploration, meaning-making, and creativity and improve the learning outcomes of the students.

The design instruction model encompassed six phases: textual context, problem exploration, objective filtering, exemplary observation, exploratory activity, and culminating activity. Two key training cores were emphasized: (1) comprehension training in which the instructor guided students through a joint reading of design task regulations extracted key points from the reading, allowed the students to rapidly immerse in, analyze, contemplate, identify issues, and strengthened their comprehension and (2) creativity training. The instructional approach, from an action research perspective, engaged students in observing excellent designs and brainstorming sessions and merging visualization with creative thinking processes to enhance creative skills.

To solidify the narrative curriculum model for design instruction, the following instructional flow was used.

(1) Textual context phase to establish context, acquainting students with the design's situational context through oral explanations of key design tasks

(2) Problem exploration phase to analyze issues, focusing on analyzing and identifying problems within design tasks, and exploring solutions based on real-life experiences

(3) Objective filtering phase to define the problem, reflect on the accuracy of the objectives, ensure alignment with the design task's context, and firmly establish the target

(4) Exemplary observation phase for visual transformation, utilizing domestic and international outstanding design works as models, catalyzing the generation of new concepts through analytical processes

(5) Exploratory activity phase for brainstorming sessions to be conducted for brainstorming and uncovering more feasible or alternative solutions, inspiring students' imaginations, gaining new perspectives, and combining innovative concepts

(6) Culminating activity phase for converging concepts, recombining various design ideas, filtering, and focusing on the core creative concepts to achieve convergence.

In the first three phases, cognitive function reinforcement was emphasized to enhance comprehension. The fourth and fifth stages pertained to the transformative function process, employing different thought directions and perspectives for problem-solving, and translating concepts into creative forms to foster creativity. After establishing the design tasks, the instructional implementation flow was elaborated as shown in Fig. 1.
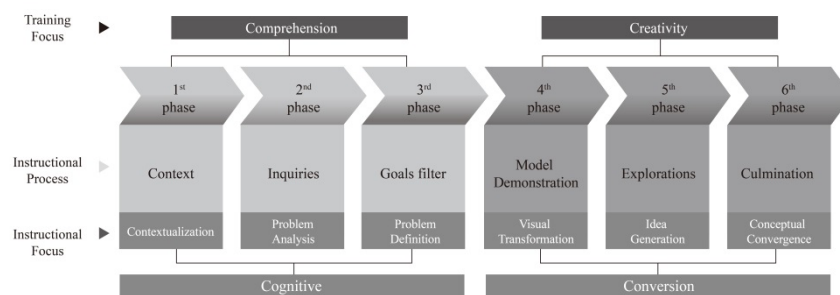

Fig. 1. Narrative curriculum instructional model.

2.3. Survey on Learning Effectiveness

Following the narrative curriculum, we conducted a learning questionnaire survey. The questionnaire for learning outcomes was created in the three dimensions of educational objectives proposed by Bloom et al. (1956) which included cognition, affect, and skills. This framework was modified and adapted to the specific learning outcomes questionnaire utilized in this research. A total of 56 students who participated in this course were surveyed on (1) course level: course content, enhancements in cognition and skills, acquired abilities from the course, and others and (2) learning level: post-course learning status and reactions, course arrangement, self-evaluation after the course, course satisfaction, and others. Participants completed a 20-item questionnaire. The questionnaire employed a 5-point Likert-type scale with scores of 5 for "strongly agree," 4 for "agree," 3 for "neutral," 2 for "disagree," to 1 for "strongly disagree." To delve into students' reflections and feelings about their learning experiences in the narrative curriculum, two open-ended questions were included in the questionnaire to capture students' cognition and shifts in attitudes that might not be thoroughly addressed by the structured items as feedback for this research.

After the analysis of the result, conclusions were drawn regarding the learning outcomes of implementing narrative in design instruction for Southeast Asian students. To ensure that the semantic meaning of the questionnaire items was comprehensible to Southeast Asian students, a preliminary test was conducted with 20 Southeast Asian undergraduates in the third and fourth years. Based on their feedback regarding the semantic clarity and comprehensibility of the statements, the questionnaire was modified.

2.4. Data Analysis

We analyzed the obtained data using the following three methods.

(1) For the conceptual works before and after the narrative curriculum implementation, comparative research was employed. Comparative research is a common method in social sciences to discern and delineate human cognition and the differences and relationships between entities. This method, introduced by Bereday (1964), was carried out in four steps: description, interpretation, juxtaposition, and comparison.

(2) A learning outcome questionnaire survey was conducted on a 5-point Likert scale. The data was used for evaluation. Such scales were employed as analytic tools for question-type surveys in areas such as satisfaction and various indicators (Likert, 1932). After data collection, SPSS version 27 was used as the analytical tool to examine changes in Southeast Asian students' learning before and after the narrative curriculum.

(3) In the open-ended question section, content was analyzed in conceptual and relational methods. The conceptual analysis emphasizes a predefined core, focusing on the frequency and occurrences of this core within documents. Relational analysis, building on conceptual analysis, delves into the interconnections within the data. Content analysis is an objective and systematic research method, requiring clear and consistent criteria for its execution to discern variables within the data. Thus, the analysis process mandates consistent coding and evaluation standards to decipher the relationships within the data (Kerlinger, 1986). The data from the open-ended questions underwent content analysis to derive students' feedback and reflections on the narrative curriculum.

3. Results

3.1. Performance Differences in Pre- and Post-narrative Curriculum

We employed a phased approach to design tasks to effectively gauge students' learning progression in a short period. According to the ideation, students proceeded with concept visualization. Not only did they produce graphics but they documented the rationale behind their creations. This method was utilized to observe students' comprehension and creativity in design before and after the narrative course. The comparative method revealed the following observations.

(1) Concept articulation: before the narrative course, students described their work in unadorned, colloquial terms (e.g., "a car falling into a hole" or "driving very fast"). After the course, they expressed deeper meanings behind their visuals, employing idioms, linguistic embellishments, and design-specific terminology (e.g., "motion blur", "nine times out of ten", or "causes of accidents"). This showed a significant improvement in their thematic comprehension and descriptive capabilities.

(2) Conceptual representation: before the narrative course, students exhibited intuitive thinking results. After course guidance, they showcased visual images with perception, metaphor, symbolism, association, allegory, and so on (e.g., using the pendulum motion of Newton's cradle as a metaphor for vehicle impact or combining seat belts to symbolize the integrity of "home"). Such techniques conveyed innovative thinking through imagery.
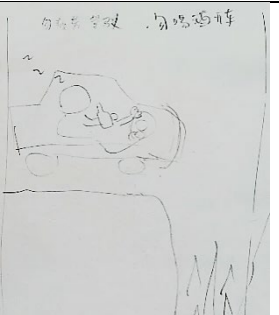
(3) Visual presentation: illustrations transformed from two- to three-dimensional perspectives were presented. Students demonstrated an understanding of dynamic, temporal, and spatial visual impacts (e.g., using the XY axis for a sense of perspective, or slanted viewpoints to convey spatial awareness).

The narrative course curriculum significantly enhanced Southeast Asian students' comprehension levels and their textual descriptions of their works with professional vocabulary. They elucidated the meaning behind their designs. In terms of conceptual representation, they employed a broader array of transformative thinking techniques to showcase creative concepts. Their imaginations were shifted to depict a sense of space in flat visuals. Guided classroom instruction not only sparked students' boundless imaginative space but also inspired their conceptual and emotional commitment to design tasks. Table 3 presents conceptual work performance in pre- and post-narrative course.
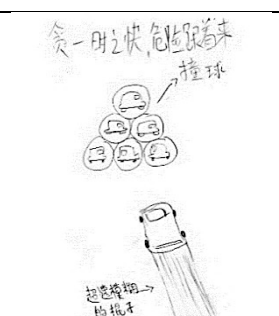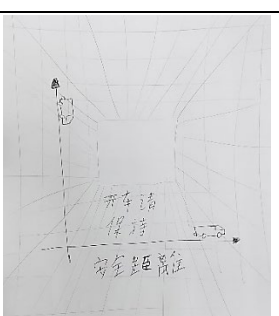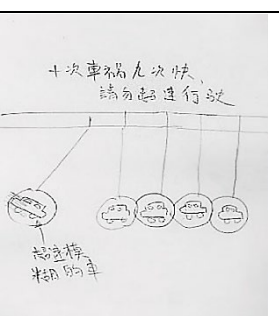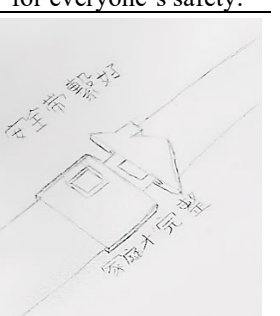
Table 3. Conceptual work presentation before the narrative course.

Conceptual work presentation before the narrative course.			
Number	**01-1**	**02-1**	**03-1**	**04-1**

Table 3. *cont.*

Concept	• A car is **speeding**, and there's a black hole ahead. • The car **falls into the hole**, signifying high speed. • **No one knows where** it will fall.	• Looking down at the phone, leading to a car accident. • **Hitting the phone** implies that using the phone **while driving is not good**.	• People who **drink and drive do not even realize** if they are driving off a cliff. • Beneath the cliff, **there are many sharp knives**, falling means going to hell.	• The car is driving on top of the **speedometer**. • The speedometer **displays the speed in kilometers**, suggesting not to overspeed.
Graphic Representation				

Conceptual work presentation after the narrative course.

Number	01-2	02-2	03-2	04-2
Concept	• Using a billiard cue **to represent** speeding. • On the billiard table, there are many cars, and **collisions due to overspeeding** indicate the danger of driving too fast. • It can also **impact the safety** and families of many people.	• Using the **XY-axis** quadrants as a representation, the two quadrants **have no intersection**. • It signifies the need to **maintain a safe distance** while driving and stay in your respective lanes to avoid causing accidents.	• Using a **Newton's cradle as the main subject**, with **symbols** of cars on top. • One of the high-speed cars is in motion (using a **motion blur effect**). • It portrays that in **ten accidents, nine times it is due to excessive speed**.	• The image is based on the **concept of home and seatbelts**. • Combining the shape of a seatbelt buckle with a **house**. • It serves as a reminder to drivers that **fastening their seatbelts is essential for a complete and safe family** and emphasizes the importance of seatbelt use for everyone's safety.
Graphic Representation				

3.2. Learning Effectiveness

A total of 56 valid questionnaires were collected and analyzed for reliability and factor analysis using software. The overall reliability coefficient α = 0.95. According to DeVellis (1991), an acceptable minimum reliability value ranges from 0.65 to 0.70. If the α coefficient falls between 0.70 and 0.90, it is considered acceptable. The overall reliability, in terms of course learning and learning outcomes, Cronbach's α = 0.95, indicating a high level of internal consistency. The questionnaire data was validated using the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity. The KMO measure of sampling adequacy was 0.77, and the *p*-value for Bartlett's test was <0.001, suggesting that the questionnaire data was appropriate for factor analysis.

Factor analysis was conducted using the principal component method. Four factors were extracted, which matched the number of factors proposed in this research. The cumulative explained variance was 72.83%, aligning with the number of variables set by the statistical results. Based on the coefficients of the rotated component matrix, the variables for each question were reorganized and categorized. The original categories—cognition, affection, skill, and learning outcomes—were redefined into new variables as follows.

(1) Comprehension and thought: 4 items, including problem identification, analysis, and reflection skills, understanding of personal qualities and capabilities, and enhancement of professional skills

(2) Creative application: 5 items, covering knowledge related to creative thinking, application of design elements, brainstorming skills, increased interest in design, and mastery of the design process

(3) Confidence and achievement: 5 items, addressing learning of design-related rules, integrated thinking, confidence in completing design tasks independently, reduced fear in facing design challenges, and enhanced problem-solving capabilities

(4) Learning evaluation: 6 items, which focused on grasping important information, improving visual representation skills, enhancing comprehension and creativity, and appreciation for feedback and teaching methods in the narrative course

The analysis result showed an average score (M) of 4.71. All items had an average value exceeding 3, and there were no instances of respondents expressing "disagree" or "strongly disagree". This reflected that Southeast Asian students with this teaching strategy affirmed the learning outcomes of integrating narrative into design courses. The average scores for comprehension and thought (M = 4.69), creative application (M = 4.76), confidence and achievement (M = 4.74), and learning evaluation (M = 4.66) were notably above the 4-point "agree" threshold. This demonstrated students' positive perceptions of the narrative approach in design courses. The students valued the course's enhancement of their problem-solving focus and acquisition of knowledge about creative thinking and the design process. They also expressed confidence in proposing innovative ideas in the future. Overall, the evaluation results revealed student satisfaction with the integration of narrative into the design course. Table 4 displays the detailed average scores for the course and learning outcome survey results.

Table 4. Learning effectiveness analysis.

Assessment Dimensions		Questions	AVG.	SD.
Course Level	Comprehension thinking	This course taught me how to develop problem-solving skills.	4.66	0.51
		This course taught me how to analyze and reflect.	4.71	0.56
		This course taught me to understand my own qualities and abilities.	4.66	0.51
		This course helped me improve my problem-solving and focus.	4.73	0.48
		AVG.	4.69	
	Design and Creativity	This course taught me creative thinking and professional knowledge.	4.82	0.38
		This course taught me how to use design elements.	4.79	0.41
		This course taught me how to stimulate creativity.	4.70	0.57
		This course taught me how to convey and communicate.	4.73	0.48
		This course taught me how to master the design process.	4.82	0.38
		AVG.	4.76	
	Confidence and Achievement	This course encouraged me to propose innovative ideas.	4.84	0.37
		This course taught me how to integrate critical thinking.	4.66	0.51
		This course gave me confidence in completing design tasks independently in the future.	4.70	0.50
		This course reduced my fear of facing design tasks.	4.71	0.49
		This course improved my ability to identify and solve problems.	4.80	0.40
		AVG.	4.74	
Learning Level	Learning Assessment	This course achieved the learning goals for design.	4.61	0.59
		This course increased my interest in design learning.	4.63	0.55
		This course improved my understanding.	4.66	0.51
		This course enhanced my creativity.	4.64	0.58
		I like that I can receive timely feedback from the teacher and classmates.	4.63	0.59
		I am very satisfied with the learning process of this course.	4.79	0.41
		Average	4.66	
		Overall Average	4.71	

3.3. Open-ended Question Feedback

To further understand students' feedback on the application of narratives in design course teaching, we included two open-ended questions in the questionnaire survey as supplementary data. The questions posed were: (1) What do you perceive as the most significant challenge when given a design task? (2) At which phase of the teacher's step-by-step guidance through the design task did you find the most helpful? The responses of the students were analyzed using content analysis methods and categorized into comprehension and creativity. The analysis was focused on the semantics, frequency, or occurrence of words related to comprehension or creativity. Keywords mentioned in students' teaching feedback included "understanding", "rules", "content confusion", "misunderstanding", "missing important information", "whether it's done correctly", "meeting the requirements", "error correction", etc., will be categorized under comprehension. "Creativity", "imagination", "creation", "mental block", "whether it can be accomplished", and "meeting standards" were categorized into creativity.

Textual analysis results by considering the students' responses showed that 56% of students felt challenges in design tasks for understanding the theme and message. Meanwhile, 38% expressed difficulty in seeking originality and inspiration, and 6% worried about whether they were off-track only after completing their work. 58% believed the initial phase of understanding the theme was most crucial, whereas 42% felt discussions of examples in later stages were most inspiring. Overall, the feedback highlighted the challenges of Southeast Asian students in design tasks. The majority found the comprehension of themes most perplexing. Due to difficulties in understanding narrative descriptions, they spent considerable time exploring the disparity and understanding the direction of their subsequent work. Moreover, for those without a foundational background in design, the challenge was more about the uncertainty about which methods to employ. This led to creations without deeper meanings. However, after introducing narrative-based courses, students benefited from the teacher's collaborative reading of design guidelines and systematic content analysis. This reduced misunderstandings and avoided incorrect design directions. Students also valued the courses' example demonstrations and brainstorming sessions, stating that they expanded their imagination, broke traditional thought patterns, and allowed for the use of diverse design techniques. This not only improved their innovation in design but also provided them with inspiration sourcing. Integrating narrative into instruction significantly helped students comprehend and address their struggles with creativity (Table 5).

Table 5. Results of Open-ended Question Feedback.

Question (1): What is the most challenging aspect for you when you receive a design task?	Comprehension	Creativity
Feeling confused and **uncertain** about the design theme, wasting a lot of time searching aimlessly.	✓	
The most challenging part is **misunderstanding** the rules, leading to designs that don't meet the requirements.	✓	
The most challenging part is sometimes missing words or not **understanding** their literal meaning.	✓	
Not quite clear on the main content of the theme.	✓	
The wording, because sometimes the competition rules are written in a professional manner that I can't **understand**.	✓	
The difficulty may lie in **overlooking important information**.	✓	
Having a blank mind and not knowing where to start.		✓
Worried about whether I am **doing it right**, not sure if I am capable of doing it.	✓	✓
Can not think of how to approach it, afraid of producing something uncreative.		✓
Not sure how to **meet the requirements** and **standards**.	✓	✓
Question (2): Which phase of the teacher's step-by-step guidance helps the most in solving design tasks?	Comprehension	Creativity
The teacher's guidance phase can save me from going down many wrong paths, and **errors** that occur during the process can be **corrected early.**	✓	✓
If the teacher did not guide us through reading the design specifications, I would probably have to ask classmates everywhere about what to do.	✓	
Phase discussions help me understand if I have deviated from the main theme, and all stage discussions are very helpful to me.	✓	✓
Understanding the theme, when the teacher guides us, I will not **misinterpret** the rules, and the design direction will be correct.	✓	

Table 5. *cont.*

Understanding; if the teacher did not help point out or emphasize the key rules, I would not be able to identify the issues myself.	✓	
Effectively stimulates **imagination and creativity** while ensuring that I do not stray too far.		✓
It can prevent us from misunderstanding; in case of misunderstanding, we would have to redo the work.	✓	
I think the benefit of looking at examples is that it can **hone ideas,** inspire **creativity**, and discover more ways to present the design.		✓
If there are no examples, I would find it very difficult to **imagine** how to create a suitable **artistic** style for presenting the work.		✓
The teacher's guidance at each phase allows us to **correct mistakes** in the **creative** process as soon as possible, avoiding going off-topic. Discussing with the teacher helps with **brainstorming** and identifying shortcomings and problems in our creation promptly.	✓	✓

The research results indicated that incorporating narrative into the curriculum enabled the students to more clearly understand the design theme. In identifying problems, students addressed issues more precisely. This approach was particularly beneficial in enhancing the comprehension skills of Southeast Asian students and stimulating their creativity in design. After participating in a narrative-based teaching course, students articulated the content of their work using professional terminology. Their works displayed a transformation of creative concepts into complete presentations, with the graphic aspect evolving from flat styles to spatially composed images. Learning outcomes revealed cognitive understanding, design creativity, and confidence at the curricular level with narrative teaching. The students learned how to grasp problems and conduct self-analysis and reflection. They also acquired professional knowledge in creative thinking, utilized design elements to transform imagination into creative images, and enhanced their confidence in proposing innovative ideas. As a result, the fear associated with design tasks was reduced. Such results showed the students' satisfaction with narrative design courses to improve cognitive understanding and design creativity and bolster confidence in design tasks. Feedback from teaching surveys revealed that students understood design rules and the analysis of content by teachers. This increased their understanding of professional design terminology and completion of design tasks. The case studies for the analysis of exemplary works and interactive brainstorming sessions made them have imaginations beyond conventional ones and present innovative creative thinking in diverse ways. Through creativity training, students learned to analyze outstanding works and search for design inspiration. Collectively, these results demonstrated the effectiveness of narrative courses in enhancing the learning outcomes of Southeast Asian students in design curriculums.

4. Discussion

The integration of a narrative curriculum into design instruction exhibited significant efficacy in this research. The pedagogy positively impacted Southeast Asian students. By engaging in collaborative reading and analysis of text within design tasks with instructors, these students rapidly were immersed in the context to identify, pose, deconstruct, and restructure problems. In terms of comprehension training, the approach assisted students in elevating their analysis and investigation skills and enhancing their overall narrative understanding. For creativity training, the students learned by observing exemplary works and participating in creative brainstorming sessions. This fusion of visualization with the creative thinking process effectively bolstered students' professional and creative proficiencies.

Educational settings need to emulate the ordinary experiences of daily life for students. The narrative curriculum emphasizes providing students with a space to think, encouraging them to identify issues based on personal life experiences and to expand by devising new activities to acquire novel knowledge and insights (Lauritzen & Jaeger, 1997). The stages of implementing a narrative curriculum are interconnected. Throughout each phase and during discussions with students, educators promptly assisted students with challenges encountered during instruction by ensuring the accuracy of data collection and organization from teaching steps in this research. By sharing and communicating, the process also promoted student interaction, the conveyance of professional expertise, and the transfer of experiences. The creativity sessions within the course elevated its topicality and appeal and boosted student engagement. These aspects validated the tangible outcomes aligned with the instructional objectives and methodologies posited in this study. Feedback from students underscored that Southeast Asian students generally were satisfied with the incorporation of narratives into design instruction. Instead of a unidirectional teaching style, in the narrative curriculum, collaborative interaction and communication with students were emphasized. Southeast Asian students acknowledged a noticeable enhancement in various skills post-course and stated that they experienced reduced apprehension when facing design tasks,

heightened confidence, and renewed interest in learning. The present research result revealed that a phased narrative instructional approach benefited Southeast Asian students from diverse cultural backgrounds. The guidance of instructors helped to synthesize and summarize information by collectively exploring, experimenting, and undergoing transformative processes, thereby laying the foundation for the students to manage design tasks and resolve design-related challenges. Overall findings indicated that narrative theory in designing instructional strategies offered multifaceted benefits.

5. Conclusions

Globalization has extensively impacted higher education systems, especially in areas such as economy, technology, and science (Altbach & Knight, 2009). For years, Taiwan has been influenced by the internationalization of higher education and the challenges posed by a declining birthrate. Coupled with the government's strong promotion of the New Southbound Policy, universities, and colleges in Taiwan have expanded their recruitment efforts overseas. While the students in classrooms appear predominantly East Asian, the number of Southeast Asian students is increasing. University instructors, faced with students from diverse cultural backgrounds, need to adjust their teaching materials and methodologies to cater to the unique needs of each student and guarantee effective and high-quality learning outcomes. In the realm of design, the use of narratives requires a systematic approach, starting with aligning designs with objectives to identify the central theme. Through an understanding of the design objectives, associated contexts, and related branching clues need to be explored. Elements from these contexts then can be extracted, transformed into constitutive elements, and further shaped into design components. Most Southeast Asian students, lacking a foundation in design, still rely on their instructors for immersion into the design context during their initial exposure. Only after repeated practice, can they independently tackle design tasks. In this research, we explored the comprehension and creativity of Southeast Asian students in design tasks. Given the aspects encompassed in design, many topics need to be examined in the actual design phase. Future research is needed to continue applying the narrative teaching approach in design education. The narrative teaching methodology proposed in this research serves as a reference for relevant disciplines for teaching domestic and international students.

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