

A Study on the Teaching Reform of Integrating Narrative Logic into Graphic Design: “New Meanings from Objects”—Practice and Reflection on a High-Level Professional Cluster of Visual Communication Design

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ABSTRACT This study explores the integration of narrative logic into graphic design education to address the lack of cultural connotation, emotional depth, and narrative thinking in students' works. A “New Meanings from Objects” teaching reform model is constructed and implemented through five steps: problem orientation, narrative practice, graphic reconstruction, semantic expression, and effectiveness evaluation. In the problem-oriented stage, students are guided to extract symbolic materials from socio-cultural contexts. In the narrative practice stage, storyline methods are used to establish emotional connections between graphics and narrative. Graphic reconstruction is then conducted based on visual semiotics to support formal innovation. Semantic expression training is used to strengthen the cultural literacy and communicative depth of design works. Finally, quantitative evaluation is carried out to assess teaching effectiveness. The teaching experiment covers 120 students. Results show that the overall average aesthetic score increases from 68.4 to 90.3, while the cultural-symbol application score increases from 59.7 to 86.4. The findings indicate that integrating narrative logic into graphic design significantly improves students' design narrative ability and visual expression depth.

INDEX TERMS narrative logic, graphic design, visual communication design, teaching reform, visual semiotics

I. INTRODUCTION

VISUAL communication design education has traditionally prioritized a framework of formal skills training, yet this model increasingly demonstrates limitations when addressing the interwoven structural complexity and cultural depth required in contemporary communication. By integrating the logic of weaving and material layering into the pedagogical structure, the framework can evolve beyond surface-level aesthetics toward a more profound, multidimensional design methodology. Students generally lack narrative awareness, and although their design works are technical in visual expression, they are difficult to convey deep emotions and cultural reflections. The use of symbols tends to be superficial, the visual language lacks narrative logic support, and the theme of the works often remains at the level of visual decoration, making it difficult to reflect the ideological value of design as a medium for cultural expression and social communication. This teaching tendency leads to students' inability to establish an organic

connection between visual symbols and cultural semantics, and the design process lacks humanistic care and narrative expression ability [1]. In order to reverse the system in teaching that focused on form rather than narrative, one must bring in the theory of narrative logic where a graphic creation is not just a beautiful form but a cultural action and social context with emotional fabric. The theme of giving new meaning to objects is intended to underline the reinterpretability of the objects as a cultural symbol, and with the intervention of the logic of narrative the design is supplied with the sense of time, emotions and communicative power of culture [2,3]. Not only can one awaken the creative possibilities of students through introducing the narrative thinking in the design classroom, but the significant relationship between works and audiences, culture and society can be also rebuilt, and new theoretical and practical dynamism can be injected into the teaching of visual communication design.

The given research is dedicated to the pedagogical model

of a high-level major in visual communication design, and its general plan is a problem analysis teaching model construction experimental verification results-analysis. Both theoretical construction and teaching practice support the methodology. It examines the fusion of graphic language and cultural narrative by building a teaching model with a predominance of the narrative logic. By mapping the interwoven patterns of fiber-based storytelling onto students' conceptual development, the study evaluates how material-driven narratives enhance the depth of cognitive and symbolic application in design.

II. RELATED WORK

The study of narrative logic of design education is primarily involved with the narration experience, readability of semantics, and transformation of cultural symbols. The focus of international scholars is on the structural processes of narrative in the visual language, such as how design creates a space of meaning with the help of timelines and emotional translation. Domestic research though, is more concerned with the connection between design semantics and the question of cultural representation suggesting that design is not just a means of expression, but also thinking and story telling. However, there are studies that show students how to rebuild graphic semantics with the help of storytelling, although, these ones tend to stay at the setting scenarios stage, lack a systematic mechanism of training the narrative logic, and never create a comprehensive teaching system that brings together cultural semantics, visual encoding, and cognitive psychology. Courses in visual communication do not offer training in cultural-semiotic and aesthetic areas as much as courses in execution, although in the area of composition, form, and aesthetic technique. Teaching process emphasizes visual appeal and technical ability, leaving the storytelling potential of design as a figurative language. Graphics are mostly perceived as decorative and not meaning-based students find it hard to see graphics as a means of expression. The outcome of this model consists of empty works of expression and inability to get emotionally connected, which prevents the cultural enrichment of design language. Although the teaching reforms have brought out cross cultural themes and social issues, the absence of narrative thinking framework renders it hard to construct a whole expressive logic amidst the intricate semantics and the teaching innovation is merely shallow as it only brings up formal updates.

The "Imbuing Objects with New Meanings" idea is anchored on the convergence of semiotics and narrative aesthetics, which suggests that the objects should be culturally re-interpreted to give them new semantic lives and time qualities. According to this notion, the design process will be an active production of meaning by the reciprocal attribution of object and purpose and not a fixed reproductive process. With the involvement of narrative logic, graphic symbols become modified into a visual language, which can be narrated, and design becomes an instrument

of cultural exchange and the construction of thought. Under the framework in this theory, the current paper suggests a narrative based graphic semantic training model. It is not based on formal imitation but it instead applies semantic reconstruction as a way of provoking creative thought, enhancing the inherent relationship between design behavior and cultural contextual and attaining cognitive innovation on the pedagogical level.

III. METHODS

A. OVERALL DESIGN OF TEACHING REFORM

The overall design of the "New Meanings from Objects" teaching reform takes the intervention of narrative logic in graphic creation as the main line, emphasizing the deep integration of story thinking and visual language from the perspective of cultural semantics. In the teaching process, students are guided to collect symbolic objects as trigger points based on real social and cultural phenomena. This process establishes a semantic mapping relationship between objects and humanistic contexts through semantic association training [4,5]. Teachers organize classes in a workshop system, use visual journals to record the trajectory of students' thinking changes, and conduct structured analysis of the relationship between text and graphics through visual narrative scripts. The core operation of teaching is to guide students to connect the plot of objects through story lines, transform abstract cultural concepts into concrete visual language, and then use graphic semantic reorganization technology to complete the reconstruction of visual symbols. Each design iteration is reflected and revised through a semantic verification process in which teachers and students participate together, to ensure that the works are consistent in form, imagery and narrative logic. In this process, multi-modal expression training is used, such as narrative mapping experiments of sound, image and graphics, to expand the time dimension and emotional level of design thinking [6,7]. The instructional design ultimately forms a triple interactive mechanism in the classroom, involving work analysis, semantic discussion, and contextual reproduction. This allows narrative logic to play a continuous role throughout the entire process of graphic language generation, thereby achieving a deep update and cultural reshaping of visual communication design teaching.

B. SPECIFIC IMPLEMENTATION STEPS

The teaching implementation is carried out with narrative logic throughout the design and creation process. Students need to collect objects in cultural contexts such as social issues, local traditional crafts, and folk symbols, and interpret their cultural connotations through textual narration and image sampling. The instructor uses semantic mapping matrix to analyze the relationship between objects and emotions, behaviors, and time, so that students can understand the narrative potential of graphic carriers. In the narrative practice, students use the storyline method to use objects as narrative clues, establish a visual narrative structure, and

use storyboards to record the conception process. Semantic retrieval and visualization expression training are carried out simultaneously in the classroom. Multi-perspective perspective, time rhythm decomposition and form transformation techniques are used to make the story situation concrete [8]. The teacher decomposes the narrative level through structural guidance method to ensure the logical continuity and visual credibility of graphic translation.

In the process of graphic reconstruction and semantic expression, students redefine form, color, and composition based on the principles of visual semiotics, so that linguistic symbols and cultural symbols are consistent. The teaching adopts targeted reconstruction training, requiring students to remove decorative elements from the initial concept and strengthen the coherence of the narrative thread. The semantic discussion is conducted in a group interaction mode, and the teacher guides students to identify the cultural intentions in the composition structure through semantic clustering models, so as to improve the depth of visual semantic understanding [9,10]. The results analysis is quantified based on aesthetic expression, narrative clarity, cultural correspondence and viewer feedback to ensure that the implementation of narrative logic has a stable and consistent evaluable standard. Table 1 shows the elements of narrative logic intervention in the graphic design teaching process.

This matrix demonstrates the narrative path and tool coordination logic of teaching reform, emphasizing the multi-dimensional synergy of narrative logic, cultural imagery and visual expression in graphic design, so that the construction of thinking and the generation of design form a dynamic system of continuous feedback.

C. DATA ACQUISITION AND ANALYSIS METHODS

The data collection took part during the whole teaching cycle, which included the semantic records on the work creation, classroom observation records, and self-reported semantic reports provided by students. A sample consisting of 120 students in their third and fourth year of study in the Visual Communication Design major was used in the data collection process, ten teaching units. In every unit, there were three concurrent tasks, which included semantic recognition, narrative construction, and graphic reconstruction. This study was approved by the Ethics Committee of Jiangmen Polytechnic, and was performed in accordance with the principles of the Declaration of Helsinki. All eligible participants signed an informed consent form. The system of digital archiving was used to gather images and written descriptions of the pieces of art by automatic means. The teaching team coded the graphic drafts, narrative scripts and process documents based on a single coding standard to be analyzed quantitatively later. In the classroom, a non-intrusive observation and recording technique was done with the help of time-stamping system, where the semantic transformation and visual reconstruction behaviors of students at various stages of creativity were recorded and at the same time, a visual semantic net diagram was formed by the

extraction of semantic keywords.

The analysis of the data is centered on the standards of narrative logic development and the semantic accuracy of visual presentation. The review board is made up of six design mentors and two experts in cultural communication, and is also using a multi-dimensional assessment matrix to rank each piece of work on a 100 point scale, based on how complete the narrative is, how well the work is coherent, how culturally relevant, how readable by the audience, and how creative the expressiveness of the piece is. All the scores are normalized to produce respective design performance indices, which would allow the trend of improvement in the narrative skills of the students to be observed both prior to and following the teaching intervention. Semantic clustering is used to analyze textual data to determine the semantic power of the narrative records and feedback statements of students to form a semantic distribution chart. The chart determines the extent of the students knowledge on the cultural properties of objects and the level of internalization of the narrative, thus confirming the ability of narrative logic intervention in the building of the visual thinking process.

IV. RESULTS AND DISCUSSION

A. EFFECTIVENESS OF TEACHING REFORM

The quantitative process of implementing the teaching reform was based on a multi-dimensional scoring system. Data sources included evaluations of 120 students' works, narrative structure analysis, and semantic literacy tests. Scoring was conducted by eight experts using a double-blind review process, covering six indicators: aesthetic expression, narrative logic, symbolic expression, cultural relevance, viewer interpretation, and innovative performance. A total of 720 work samples were compared before and after the reform. Through data processing and standardized analysis, the overall average aesthetic score increased from 68.4 to 90.3, the use of cultural symbols rose from 59.7 to 86.4, and satisfaction with narrative logic construction increased from 61% to 88%. The data variance decreased to 6.2%, indicating that learning outcomes tended to stabilize. Table 2 provides detailed data.

The data shows that after the intervention of narrative logic, students have significantly improved in three aspects: visual semantic transformation, graphic language organization, and cultural expression. Among them, visual coherence and aesthetic scores have increased the most, indicating that the teaching strategy has effectively strengthened the ability to integrate image narrative and cultural semantics.

B. ANALYSIS OF REFORM EFFECTIVENESS

The analysis of the reform's effectiveness employed comparative behavioral tracking and semantic depth assessment methods, focusing on examining students' transformations in areas such as the speed of thought generation, narrative coherence, cultural projection awareness, and innovation in graphic imagery. Through six weeks of teaching observation

TABLE 1. Matrix of elements in the teaching process of graphic design with the intervention of narrative logic

Teaching segment	Teaching objectives	Operating method	Main tools	Evaluation dimensions	Expected performance
Problem-oriented	Establish cultural semantic cognition	Document mapping and semantic retrieval	Cultural data base, keyword index table	Cultural relevance	Precise depiction of the subject matter
Narrative Practice	Constructing the narrative logic structure	Storyline and plot design	Storyboard Template	Narrative integrity	The plot is coherent and clear.
Graphic Reconstruction	Transform narrative information into graphics	Morphological analysis and symbolic translation	Photoshop, Illustrator	Compositional rationality	Visual symbol unity
Semantic expression	Strengthen cultural semantic communication	Multimodal integration	Visual semantic mapping graph	Semantic recognition rate	Profound cultural implications
Results Analysis	Verify the consistency of design logic	Expert review and feedback quantification	Assessment scale	Overall Performance Index	Student ability growth
Classroom interaction	Promote the externalization and reflection of thinking	Group discussion and peer review	Visual logs, discussion records	Richness of expression	Clear information structure

TABLE 2. Quantitative Statistics on the Effectiveness of Teaching Reform Implementation

Indicator Categories	Average before reform	Post-reform mean	Increase ratio	Standard deviation	Sample size	Data source
Aesthetic score	68.4	90.3	32%	5.8	120	Expert review
Accuracy of symbol usage	59.7	86.4	27%	6.5	120	Semantic recognition test
Narrative Logic Satisfaction	61.0	88.0	27%	6.2	120	Student Questionnaire
Cultural compatibility	63.5	85.1	21.6%	5.9	120	Symbolic analysis
Innovation score	70.2	92.6	31.9%	5.4	120	Teacher evaluation
Visual coherence	66.8	89.7	34.2%	4.7	120	Analysis of the work
Overall Performance Index	64.9	88.7	36.6%	6.2	120	Summary calculation

records and structured interview data analysis, the study statistically analyzed changes in students' performance across the three stages of creative formation, semantic extraction, and visual construction. This data was validated by expert qualitative interpretation to ensure that the data accurately reflects the genuine improvement trends in the teaching process. See Table 3 for details.

TABLE 3. Results of the Analysis of the Effectiveness of Teaching Reform

Analysis Dimensions	Performance before reform	Performance after reform	Increase (%)
Narrative coherence score	6.5/10	8.7/10	33.8
Concept generation time (minutes)	42.6	28.1	34.0
Cultural semantic recognition rate	58.3%	84.5%	26.2
Graphical Innovation Structure Score	7.1/10	9.2/10	29.6
Viewer Interpretation Consistency Rate	61.4%	89.1%	27.7

Data shows that students experience positive feedback between conceptualization and narrative practice, with the average thinking transformation time shortened by about one-third, and narrative coherence significantly improved. The cultural semantic recognition rate and viewer interpretation consistency rate both increased, indicating that the works are clearer in meaning construction and visual communication, and that narrative logic training has a significant impact on design perception and expression efficiency.

C. SHORTCOMINGS AND AREAS FOR IMPROVEMENT

While the teaching reforms have significantly improved students' ability to construct narrative logic and express graphic semantics, several limitations remain. In practice, the workload in classrooms is heavy, and students invest uneven time in the imagery and narrative integration stages. Some works exhibit a tendency towards formalism in semantic transformation, resulting in insufficient narrative depth. The visualization ability of narrative scripts is still constrained by students' depth of understanding of cultural context and their mastery of analytical methods; their ability to identify and recreate cross-cultural semantic symbols needs to be strengthened. Differences in standards among the teaching team in semantic assessment and feedback affect the continuity and accuracy of quantitative data. Future teaching could introduce dynamic semantic analysis systems and AI-assisted interpretation mechanisms to improve the objectivity of assessments through real-time semantic matching. Simultaneously, modules for cross-media narrative training and cultural context research should be added to promote a deeper connection between graphic narrative and socio-cultural aspects, achieving sustainable optimization of the teaching system and innovative extension of the discipline.

V. CONCLUSION

The teaching systematically incorporates and combines the teaching components in the fields of structured narrative, visual semantic mapping and graphic language reconstruction, facilitating the shift of the students towards their

learning of objects to cultural knowledge. At the stage of design conception, the students may work with a story-based pattern of thinking which helps them to systematic structure their creative thoughts, in order to enhance the inherent relationship between visual symbols and a context of the narrative, and to provide a sense of unity to their pieces in both the level of emotional intensity and the cultural connotation. In facilitating the process, teachers have devised a system of teaching evaluation relying on semantic feedback and offer continuous assistance to classroom interaction and reflection. The teaching paradigm of this research provides a new practical direction of visual communication design education.

AUTHOR CONTRIBUTIONS

Yingshi Sun designed, collected and analyzed the data, and drafted the manuscript. Yingshi Sun conducted the study, critically revised the manuscript for important intellectual content, and gave final approval of the version to be published. Yingshi Sun participated fully in the work, take public responsibility for appropriate portions of the content, and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

CONFLICTS OF INTEREST

The author declares no conflict of interest.

FUNDING

This research was supported by, Project of Guangdong Provincial Education Science Planning (Special Project for Higher Education) in 2022 (2022GXJK630)

HUMAN RESEARCH SUBJECTS

This study was approved by the Ethics Committee of Jiangmen Polytechnic, and was performed in accordance with the principles of the Declaration of Helsinki. All eligible participants signed an informed consent form

ACKNOWLEDGEMENTS

Not applicable.

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