

Cooperation and Narrative Sharing: Building a Co-Creative Teaching and Learning Situation through Quasi-Theatrical Teamwork

*By Ching-pin Tseng**

Works of theater arts are produced by associating with artists, dramaturgists, designers and technicians from various professions. Multiple layers of idea exchanging and complex processes of coordination are embedded in the mechanism of teamworking. This paper argues that the concepts and the generation of theatrical works are closely related to everyday lives. The course of 'Introduction to Theater Design' is set to start from shaping an appropriate relationship among participants. Students can also initiate their learning from the observation of everyday reality, and further to develop a narrative sharing and collaborative relationship among team members in a quasi-theatrical teamwork. Theater arts is both a practical profession and a discipline full of historical and theoretical knowledge. Due to the classification of teaching expertise in the academy, courses of theater arts are often divided into practice and theory, which results in difficulty motivating a mutually beneficial mechanism in creating theatrical works. Moreover, the director is often regarded as the most important role in theatrical education, as well as being authorized to have a dominant power in the decision-making of theatrical production, therefore other professionals become secondary or functional roles. From questioning the unidirectional teaching and learning method, this paper intends to explore how an interdisciplinary team can build up co-creative theatrical works. By sharing narratives in a teamwork, the paper expects that students can incubate their habits of group discussion and cooperation through paying respects to others. The content and implementation of the course are intended to break down the border of classrooms from the notion of 'the city as theater': by associating with theatrical theories and the idea of 'learning by doing', living scenarios can be integrated with theatrical settings, and students with varied tendencies can thus forge compatible, symbiotic and co-creative learning situations.

Keywords: cooperation, narrative sharing, practice, quasi-theatrical teamwork, interdisciplinary

Introduction

Research Motives

Works of theater arts are produced collectively by associating with many professions, i.e., it is a process of cooperation and co-creation by joining together dramaturgists, directors, performing artists, designers and technicians, etc. It focuses on the methods of communication, sharing, co-creation and performance presentation of ideas and creative concepts that come from text and script interpretations. Due

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to the classification of teaching expertise in the faculty, the teaching curricula of theater arts are often divided into practical and theoretical, and there are some differences between the two branches regarding the content of courses and teaching places. The reason may be that those with theoretical expertise may lack practical experience or have fewer opportunities to prove theories through practice. Practical professionals, on the other hand, are less interested in theatrical history and theoretical discourse. As a result, the various experts may stick to their professional positions, and thus a mutually beneficial mechanism for a team to co-create theater productions will be difficult to shape. Moreover, in terms of the direction for artistic creation and conceptual development, the opinions of directors are often dominant in the field of theater teaching and practice in Taiwan, while those in other professional fields become secondary or only play functional roles, resulting in a general lack of autonomy in professional discourse. The first reason for this phenomenon is that students have either regarded the director as a determinant role in shaping creative concepts, or have a biased cognition of professional hierarchy in their minds in terms of the collaborative mechanism of theater production. The second may be that the division of professional curricula during the student's study period is too early to have sufficient understanding of other majors, resulting in a considerable gap in the comprehension of other disciplines. The third may be that the beneficial mechanism of interdisciplinary learning has not been established at the beginning of their studies.

The educational concepts of interdisciplinary and multidisciplinary learning have been an important direction advocated by the world's advanced countries and domestic educational institutions in recent years. For instance, the Finnish National Board of Education proposes that '[m]ultidisciplinary learning modules are tools for integrating learning and for increasing the dialogue between different subjects' (Finnish National Board of Education, 2016). There are also some teaching methods suggested to advocate creative integration through multidisciplinary and interdisciplinary study, such as STEAM. From the standpoint of theater arts, this paper suggests that students with different specialties can be encouraged to form co-learning teams to create opportunities for working together and learning from each other because of the potential dialogues among different gifted talents. In terms of teaching methods, the course of 'Introduction to Theater Design' adopts the mode of 'learning by doing' or learning by using practical exercises to verify the teaching of theories. It can not only reduce the gap between learning and practicing, but also break down the boundary between tangible and intangible in the learning horizon. Through narrative sharing as well as spatial and visual perceptions, students will have profound experiences and perceptual feelings in the learning process, and can stimulate each other's creative potential. This research in teaching practice focuses on the qualitative recording and analysis of students' learning journeys, which can be of great importance and may have the potential to be broadly applied to the basic methods for theater design education and theatrical practice.

Research Questions

The research questions are related to design pedagogy and on-site teaching problems described below:

- 1) To explore what kind of theater design pedagogy and teaching mechanism can enhance the learning compatibility of students with different specialties or learning interests?
- 2) How can the co-creative model of teamwork enhance the creative level and diversity of theatrical design?
- 3) How can the teaching of theatrical theories improve its comprehensibility and applicability through the practical approach of 'learning by doing'?
- 4) The problems that the research is trying to solve at the teaching site and the importance of the problems are as follows:
 - When students have very different learning interests or abilities, how can the instructor arrange the compatibility of course content and the method of assessing students' learning effectiveness?
 - How can a team-based profession cultivate a cooperative learning mode and a way of narrative sharing with team members in the fundamental curriculum?

Research Objectives

The main objective of this research is to establish an inclusive and coordinated attitude of cooperation among classmates in the process of teaching and learning 'Introduction to Theater Design'. Through a series of collaborative processes of observation and narrative sharing, co-learning and co-creation, as well as quasi-theatrical learning situations, students are guided to develop their knowledge of problem solving, as well as the ability to think and apply knowledge by simulatively using the practical approaches used by theatrical crews. The goal of this course is to inspire beginners in learning theater design with basic theatrical knowledge, aesthetic connotation and practical abilities. Through the use of basic brainstorming and thematic design thinking, students can understand the narrative language and application essence of theater design through observation and narrative sharing, and develop their perceptual experience and aesthetic appreciation through practical exercises. Moreover, students' abilities to solve design problems can be achieved by collaborative discussions. It is hoped that this quasi-theatrical mode of teaching, as well as the cultivation of aesthetics and abilities in staged observation, thinking and design, can contribute to the students' presentation of professional ability for the performance of their future theatrical productions. In so doing, a co-learning, co-creative and symbiotic ecology of theater arts can be shaped.

Literature Review

Interdisciplinary Learning and Teamwork in Theater Arts

Due to rapid social, political and technological development in the 21st century, people may face increasingly complex issues in their everyday lives, and even the challenges caused by globalization cannot be solved by unitary knowledge. It is thus important to create an interdisciplinary and integrative learning model in schools, provide students with the opportunity to develop their capabilities to face complex problems, and then have the potential to cooperate and integrate horizontally with other fields. According to Mansilla (2017), ‘...unique to interdisciplinary learning is the fact that these processes integrate information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines, typically in order to craft products, explain phenomena, or solve problems, in ways that would have been unlikely through single disciplinary means’ (Mansilla, 2017, p. 264). This paper thus suggests that the approach of interdisciplinary learning can be suitable for first-year collegiate students to broaden their cognitions of professions and enrich related knowledge.

Theater arts is a multidisciplinary and integrated artistic profession, in which a theatrical artwork is composed of, and fulfilled by, artists, designers and technicians, etc., from various professions, during the process of idea incubation, creative discussion, practical making, rehearsal, concept concretization, and the final presentation in the theater to audiences. Basically, these co-creative designers, artists and technical specialties are: stage, costumes, props, lighting and sound designers, directors, stage managers, performers, technical crews, and administrators, etc. Under the mutual stimulation and cohesive consensus generated among the aforementioned professionals, an indispensable mechanism of co-creation has been demonstrated. According to Karen Brewster and Melissa Shafer, ‘[t]hese people all share in the creation of a single artistic expression, the production of a theatrical event’. Due to the differences in the cognition of theater arts among varied professionals, there may also be some conflicts among their artistic viewpoints, thus, ‘[c]ollaboration can be a difficult skill to learn, as it is equal parts process and personality. Combine the multifaceted process of theater production with the variability of human personality traits and this makes for a very complex and potentially unpredictable experience’ (Brewster & Shafer, 2011, p. 72). In considering the variability and subjectivity of creative teams in theater production, mutual understanding is needed to achieve successful collaborations; moreover, Brewster and Shafer also mention that ‘...not all directors are what one might call “visual”; in fact, many are more “cerebral” in their methods and sometimes have difficulty relating to the designers in visual terms’ (p. 75). It is thus essential to bridge the professional gap between designers and directors by providing interdisciplinary curricula for their early studies.

Accordingly, this research project argues that in order to strengthen the cultivation of cooperative relations and professional communication in theatrical production, it is important to implement narrative sharing and to carry out fundamental aesthetic education in this course, as well as to establish a foundation

for mutual understanding of other disciplines' creative ideas. Further, the sharing of creative ideas, as well as the coordination and exchange of design ideas of theatrical space and visual aesthetics, are a process of continuous experimentation and reciprocal learning, therefore, this research regards 'Introduction to Theater Design' as a quasi-theatrical setting for the basic teaching and learning situation, through which the first-year students' potential for cooperation and co-creation with mutual respect can also be forged.

About Fundamental Design Education

It can be said that the modern concept of design education has been largely inspired by the 'Bauhaus' in Germany led by Walter Gropius, who founded the 'Bauhaus School', proclaiming design thinking that integrates art and technology, and is also a holistic concept of design education that cultivates both reason and sensibility. This educational concept of holistic design is quite similar to the direction of theater education and it has many references for the process of practicing theatrical design in the incubation of students' perception and creativity. According to Klaus Weber's statement in *Bauhaus Archive Berlin: Museum of Design The Collection*: 'One of the basic ideas of Walter Gropius at the Bauhaus was that "the students should be inspired from two sides, from the artistic and from the craft side". He thought intuition to be as essential as rational analysis and solid handcraft, and rated the creative potential of Avant-garde art to be the basis for a lively, future-oriented work at his new school' (Weber, 1999, p. 30). Due to Gropius's attempt to create an international influence of the Bauhaus, a number of internationally renowned artists and painters were hired as Bauhaus masters at the early stage, such as: Lyonel Fenninger, Johannes Itten, Oscar Schlemmer, Paul Klee, Vassily Kandinsky, László Moholy-Nagy, etc. As Weber mentions, these masters 'guaranteed an outstanding artistic quality, a stylistic plurality, and an international flair, which was not to be found at any other school and has never been paralleled since' (Weber, 1999, p. 30). Among them, Oscar Schlemmer was himself a sculptor, painter and designer. From a multidisciplinary perspective, he conducted research on 'Man and Art Figure', and further developed a plotless costume play – "Triadic Ballet" and the teaching of 'Bauhaus Stage'. László Moholy-Nagy is a creator of art and design, including photographer, painter, designer, filmmaker, theatre professional and sculptor, and '...was concerned with such elementary themes as planes and space, balance and movement' (Weber, 1999, p. 30).

The curriculum of the Bauhaus also included courses in stage workshop, in which students 'made masks, costumes, and requisites and studied the mechanical, optical, and acoustic requirements of stage work. The students worked on stage sets, studied movement and representation, and were trained in stage direction, collaborating on productions ...' (Hahn, 1999, p. 136). It can thus be suggested that the courses for educating students to produce theatrical works need to be inclusive and transdisciplinary, and a goal of artistic integration can be achieved by dynamically associating varied subjects as well as fulfilling artistic ideas through collaboration. In the light of the aforementioned cross-disciplinary approaches in art and design run by Bauhaus' masters, as well as their emphasis on the development

of basic themes and the education of students' spatial composition, the interdisciplinary direction and creative perspectives of the Bauhaus' courses can guide students to develop inclusive thinking and co-creative ethos.

The Cultivation of Practical and Perceptual Experience

Regarding the cultivation of beginners' perceptual experience in basic design education, it can be discussed from 1) Perceptual trainings in hand drawing, model-making, and the use of materials in relation to body, hands and mind. 2) The development of perceptual experience of body and sensory organs in the built environment and spaces. The first indicates that the process of learning and practicing drawing is a channel for the expression and communication of ideas. For first-year students who study theater design, the achievement of excellent quality of their drawing and model making is not the goal of this course, nor is it the guideline for evaluating their performances. On the contrary, because they are beginners, the role of hand drawing/ sketching is the process of exploring creative ideas, as well as the expression of conceptual understanding and perceptual experience. A similar case related to this teaching idea can be Itten's preliminary course in the Bauhaus, in which '[t]he favorite instrument was charcoal, which was fully exploited by the students for its general adaptability and great flexibility in shading' (Wolsdorff, 1999, p. 44). Christian Wolsdorff points out that this preliminary course '[p]receding other courses, it was intended to teach students the basics of material characteristics, composition, and color. ...He wished that the assignments be combined with sensual physical exercises intended to establish an emotional relationship towards artistic production' (Wolsdorff, 1999, p. 44). Moreover, perception, 'according to Itten, was dependent on the context. He considered that the contrast between light and dark was one of the most valuable and expressive means of creation' (Wolsdorff, 1999, p. 44).

Hand drawings and watercolors do not only express the content of shapes and patterns but also reveal the context of designers and artists' ideas as well as the key to their thinking. In the early stages of developing the idea of theater space and stage design, there are many parts which need to be communicated through drawings, by which the ideas and concepts of design can be articulated. The use of brushstrokes, colors, etc. to express light, shadow and rendering is an excellent way for painters and designers to convey their perceptual experience, and it is also an effective medium for stage designers to interpret the script. For example, a well-known stage designer in Prague, Czech Republic, Jaroslav Malina mentions that '[t]here is a permanent interaction between my painting and my design.' In an interview, he further states that '[m]y process of work is a way of thinking. It is rational, analytical and based on research but it is always corrected by emotion, what I call balancing on the edge. When I have the opportunity, I like to research and prepare a project for a long time. Each time the solution comes with my use of media to express the design visually, mostly with painting, sometimes with a simple drawing' (Malina, 2001, p. 62). From the aforementioned Itten's course for nurturing students' perceptual ability and creative expression through drawing exercises, as well as the personal creative experience of stage designer Jaroslav

Malina, it can be emphasized that drawing exercises are of great help to design thinking and to the stimulation of creativity.

In addition to the fact that drawing is a medium to induce perceptual experience and convey ideas, the process of making models is a good way to experience the sense of space and to learn the composition of space. The Bauhaus offers basic courses to new students, ‘so that they can receive fundamental courses, such as “basic modeling”, “material research”, and “factory principles and practice”’ (Wang, 1998, p. 43) in which the one related to model-making belongs to the theme of representation, therefore it can be seen that the practice of model-making can provide an opportunity for beginners to study the development of shape, spatial relationship, material composition and the exploration of spatial perceptual experience. To study the conditions of various design professions in the theater arts through model-making is very important for the whole development process of the production. As Brewster and Shafer state, ‘a three-dimensional scaled paper model ... are the 3-D equivalent of the thumbnail sketch and can be beneficial in understanding the space relationship of scenic components’ (Brewster & Shafer, 2011, p. 140). In addition, in the early design meeting, scaled paper models can help the crew members to repeatedly discuss design ideas or to explore better design schemes. Within the mode of co-creative teamwork in this course, students who are not familiar with stage design, or who are unclear about the concept of space, can have opportunities to directly perceive the situation in the theater through the scaled paper model. In the design of stage spaces, it can also stimulate learners’ sensitivity to spatial perception, as well as their understanding of materials and textures.

On the premise of nurturing students’ perceptual experience, the research has arranged an introduction and an assignment of ‘periaktoi’ in the course. In lecturing on theatrical theories and historical cases, ‘periaktoi’ that was used in ancient Greek and later was developed as well as being popularly used in Renaissance was discussed. As Marcus Vitruvius Pollio states in *The Ten Books on Architecture* that ‘periaktoi’ (Περίακτοι) ‘are spaces provided for decoration’, ‘because in these places are triangular pieces of machinery which revolve, each having three decorated faces. When the play is to be changed, or when gods enter to the accompaniment of sudden claps of thunder, these may be revolved and present a face differently decorated’ (Vitruvius Pollio, 1960, p. 150). In addition, from its technical detail, ‘[p]eriaktoi are described as triangular, mounted on a central pivot, that could be turned to show a different scene on each face’ (Brockett, Mitchell, & Hardberger, 2010, pp. 15-16) (Figure 1). Therefore, this course takes advantage of the visual and spatial variability of the traditional spatial installations with the technique of changing scene to provide students with a practice of visual and spatial perception in the design of stage set.

Figure 1. Periaktoi

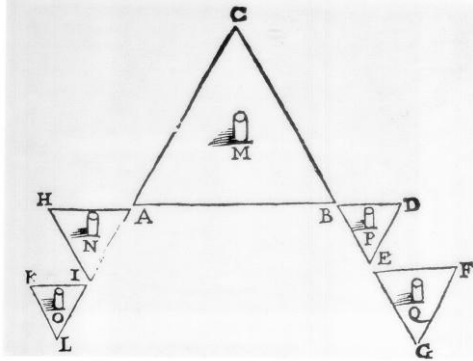


Fig. 1.17. Vignola's periaktoi, a sixteenth-century conception. It is believed that three scenes were painted on the three sides of each periaktoi and that the units were turned on central pivots to change the scene.

From Giacomo Barozzi da Vignola, *Le due regole della prospettiva pratica* (1583).

Source: Brockett, Mitchell, & Hardberger, 2010, p. 16.

The Notion of 'the City as Theater'

The public spaces of a city and settlements are the places where people's collective activities take place, and the historical traces in the built environment of the town represent the fragments of citizens' memories of everyday lives. Through situating at/in these memorable places and experiencing such collective activities, there may be some opportunities for the citizens to identify with their city. Christian Norberg-Schulz also states that the establishment of such a meaningful relationship between a person and a particular place exists in a process of identification; in other words, a sense of belonging to a particular place (Norberg-Schulz, 1985, p. 13). Since the time of traditional settlements and pre-modern societies, public spaces have been places for people to hold religious and festival activities, such as seasonal celebrations and sacrifices in traditional ethnic groups and Han communities in Taiwan. These festivals and performances in settlements and communities bring people together in the squares, streets, and other open spaces in front of the temple, thus people's sense of belonging to and identification with the places can be formed.

In *Places of Performance: The Semiotics of Theatre Architecture*, theater theorist Marvin Carlson utilizes the semantic model of architecture and urban spaces to explore the changes of social conditions and political powers that were reflected in open spaces in European cities, Greek theaters, medieval churches, Renaissance and Baroque ducal theaters, and the avant-garde art of the 20th century (Carlson, 1992, pp. 14-37). Among them, in terms of religious celebrations in medieval cities, Carlson further states that '[c]ities offered a variety of richly significant locations for the performance of religious drama. In many of them the space immediately adjacent to the cathedral was apparently employed' (Carlson, 1992, p. 17). In traditional European cities, the churches and the squares in front of them, the streets and alleys outside the cathedrals, together with the visual images, such as carvings and clay sculptures depicted by the surrounding buildings, caused the religious festivals, ceremonies and related theatrical performances to be integrated with the ordinary lives of the citizens, as well as being associated spatially with the surrounding places. Under the circumstances, the public unconsciously took part in the ceremonies and related performances. The city's public places can thus be regarded as theater for holding religious festivals and performances or the city's

dramas. That is, the composition and the development of these public places, as well as the holding of festivals, celebrations and performances bear witness to the historical trajectories of the city and continue to imprint residents' memories of daily lives.

Additionally, in *The Cambridge Introduction to Theatre Studies*, theater theorist Christopher B. Balme discusses that site-specific performances are:

...performances that take place outside pre-existing and pre-defined theatrical spaces. Site-specific performances utilize natural features or historical spaces and buildings to provide a spatially determined semantic frame for the actual performance. They use the properties and meaning found at a given site, be it a landscape, a city, a building or a room. This form of theatre emphasizes particular images, stories and events that reveal the complex relationship between ourselves and our physical environment (Balme, 2008, pp. 60-61).

In other words, a 'site-specific theater' or 'site-specific performance' is a performance that takes place in an existing place or a non-institutional theater with historical connotations, so that the performance presented there is meaningfully connected with the spatial conditions of the site. The aforementioned concept of theatrical performances planned because of the particularity of the site are also the practical approach that this research hopes to guide students to carry out in the historical site of Kaohsiung city during off-campus courses. If students can explore and learn through the off-campus course, the urban context and spatial atmosphere of the city's historical area will provide students with more direct inspiration in terms of scale and perception, and it is also possible to increase their participation in the course and enthusiasm for learning. In other words, the spatial attributes revealed by the city's historical places concretize the 'representational space' in the three concepts¹ of the production of space that Henri Lefebvre analyzed. That is, '[r]epresentational space is alive: it speaks. It has an affective kernel or centre: Ego, bed, bedroom, dwelling, house; or: square, church, graveyard. It embraces the loci of passion, of action and of lived situations, and thus immediately implies time. Consequently it may be qualified in various ways: it may be directional, situational or relational, because it is essentially qualitative, fluid and dynamic' (Lefebvre, 1991, p. 42). Moreover, in *Rhythmanalysis: Space, Time and Everyday Life*, Lefebvre discusses the rhythms of Paris and states that 'to grasp a rhythm it is necessary to have been grasped by it; one must let oneself go, give oneself over, abandon oneself to its duration...it is therefore necessary to situate oneself simultaneously inside and outside' (Lefebvre, 2006, p. 27). In order to grasp rhythms of a place, Lefebvre suggests: 'No camera, no image or series of images can show these rhythms. It requires equally attentive eyes and ears, a head and a memory and a heart' (Lefebvre, 2006, p. 36). This is why first-year students in the department of theater arts need to start with off-campus courses for immersing themselves in (urban and natural) environment and related stories.

¹These three concepts of the production of space are: spatial practice, representations of space and representational space.

The Fundamental Teaching Methods and Approaches for Theater Design

Practical Education through ‘Learning by Doing’

In terms of performance, directing and the practice of various fields of design, many parts of the theater arts are professional expressions that are fulfilled through practical speculation and rehearsals, with the support of technology. From the rehearsals at the early stage to the final performance, the stage planning and the design implementation of costumes, props, lighting and images in theatrical crew, all involve many practical discussions, such as the expression of design ideas, creative concepts and aesthetics. It also includes the coordination and the use of various technologies, as well as the rational thinking of material usage and production procedures. From the aspect of nurturing professional applicability, therefore, the process of trying, perceiving and adjusting by the practical education of ‘learning by doing’ should be an essential and inevitable learning path and teaching method.

According to Hayne W. Reese, ‘learning by doing’ means ‘learning from experiences resulting directly from one’s own actions, as contrasted with learning from watching others perform, reading others’ instructions or descriptions, or listening to others’ instructions or lectures’ (Reese, 2011, p. 1), hence these experiences caused by the learner’s doing actions can be thought of as the benefit of self-education. Regarding the relationship between experience and education, the philosopher and educator John Dewey’s educational philosophy is very inspiring to this research. Dewey states that ‘[t]he conceptions of situation and interaction are inseparable from each other. An experience is always what it is because of a transaction taking place between an individual and what, at the time, constitutes his environment, ...The two principles of continuity and interaction are not separate from each other. They intercept and unite’ (Dewey, 1976, pp. 43-44). It is also due to the continuation of this experience that what has been learned before can be transferred to the situations encountered later, therefore Dewey further states that ‘[w]hat he has learned in the way of knowledge and skill in one situation becomes an instrument of understanding and dealing effectively with the situations which follow’ (Dewey, 1976, p. 44). Because of the organic connection between experience and education, Dewey suggests that a study or the subject matter ‘must be derived from materials which at the outset fall within the scope of ordinary life-experience’ (p.73).

From the above discussions of the influence of experience on learning that are pointed out by Dewey, we can also see the importance of accumulating experiences through the method of practical learning. With regard to the learning of theater arts and the exploration of creativity, the organic relationship between the relevant content or themes of the theater and the living environment may project the accumulation of life experiences of many participants and characters, as well as suggesting endless creative materials that can be explored in their daily lives. In other words, through the fulfillment of practical works, the feedback of experience and physical perception through ‘learning by doing’ will accumulate the capability of creative thinking for students to reveal naturally in the future, as well as demonstrating their life experiences freely on the stage.

About the Curriculum for the Course of Introduction to Theater Design

In order to solve the problem of teaching and learning in the course, this research has reviewed the above literature. It may have a complete framework for the teaching of basic concepts and the direction for associating the theory with practice of theater design, as well as having the teaching materials for cultivating students' perceptual experiences of design; however, in terms of the order of the curriculum, the association between theoretical studies and practical exercises, and the arrangement of teaching resources and content, this research refers to the literature of theatrical practices and theoretical researches, in addition to my six years' experiences of teaching this course. Among them, Gary Thorne's *Stage Design – A Practical Guide* is a practical introduction to the artistic and technical aspects of theater design. Written with students, practitioners and amateurs in mind, the book includes exercises that stimulate creativity and encourage questioning. This book contains an introduction to basic concepts of art and design, some practical examples of theater design, drawing exercises and the research into model-making, which can be beneficial to the design process (Thorne, 2010, pp. 25-36). It also explores script analysis and methods for developing creativity through perceptual experience (Thorne, 2010, pp. 77-97).

Stephen Di Benedetto's *An Introduction to Theater Design* is the result of his research on the experience for teaching beginners, which has been inspiring and helpful to this research in the arrangement of the course of 'Introduction to Theater Design'. In the chapters of this book, the author first describes the tasks of theater designers, and then gives a structural introduction to the history of theater and the development of stage sets, hoping that learners will have a basic understanding of theater history and theory. He then explains the interpretation of the script story to the language of visual thinking in the theater, the elements and aesthetics of stage design, and the importance of aesthetic principles and practical operations in various design fields in the theater. He also emphasizes the key role of drawing and model-making in the study of creativity in stage and set design, (Benedetto, 2012, p. 78) as well as discussing the importance of drawing and model-making in developing learners' perception. Finally, Benedetto concluded the collaboration process in the theater by asking how the co-creative design team can enhance the director's vision, and further emphasized the importance of listening and learning from each other to the collaboration of teamwork (Benedetto, 2012, pp. 178-81).

Reflection on Teaching Methods and Students' Learning Outcomes

Prior to the lectures on theater arts and its related historical development, this course introduced some basic concepts of space, time, human behaviors and everyday lives, to provide students with some opportunities to ponder over the relationship among body expressions, stories, and places together with time. In the meanwhile, to broaden the definition of theater, the first section of the course set up a performing assignment on the theme of 'the presentation of time' by teamwork for students to perform at varied chosen sites in Hamasen of Kaohsiung city, and it

will be discussed firstly in this paragraph. Secondly, for the cultivation of beginners' perceptual experiences in learning basic theater design, this paper has analysed the literature on drawing and model-making in the second paragraph. From the teaching strategy of narrative sharing, this research not only intends to integrate the practical exercise of drawing and model-making, but also utilizes the narrative potential of periaktoi to be operated dynamically by the teamwork. In other words, this approach intends to increase the narrative engagement of team members and to forge some opportunities for students to learn immersively. Finally, based on the notion of 'the city as theater', the students were encouraged to discover related stories about Hamasen or Kaohsiung (Takao) by model-making and the use of color rhythms to represent the city's temporal stories. The team members collaborated to ponder over their stories and fulfilled their ideas by drawings and conceptual stage models. The followings are descriptions of the learning outcomes of three phases of practical exercises:

'The Presentation of Time' by Performance

The ways of interpretation and presentation of time can be both objective and subjective. In order to realize each student's professional tendency, the first exercise was intended to encourage students to reveal their subjective life experiences and exchange their preliminary understanding of time with other team members through paintings, models or performance. To connect their performing venues with Kaohsiung's historical places, the first off-campus class was a tour walking in Hamasen area, and was set for students to discover some temporal factors of the cultural heritages, as well as searching for historical stories about their performing sites. For example, one team selected Kaohsiung Wude Hall (Wude Martial Arts Center)² as their site for presenting their interpretation of time by performance. The work is named *The Freedom for One Minute* (Figure 2), showing three girls playing for a short time outside the Hall, and being frightened away when hearing the coming of the Japanese policemen during the Japanese colonization of Taiwan. Another work, named *A Train for the Future*, is intended to present a parallel spatial-temporal encounter of two girls at the conserved Takao Port Station (Figure 3). This work interprets the change of the two characters when time passed together with the preservation of the heritage and the transformation of its function.

After the review of students' presentations, this research discovered that 42% of students performed their works in specific sites in Hamasen, and 50% of students performed their interpretations of time in the classroom (in which 8%, two students, performed individually), whilst 8% of students individually presented their paintings about the periodicity of time. In fact, an early survey of students' learning interest shows that there were 33% of students with design tendencies, and 25% of students with both design and directing (or theory) tendencies. From the first exercise, it can be seen that students with a design tendency cannot fully present their ideas through teamwork, as students with directing and performing tendencies have determined the direction and content of their performances. That

²During the Japanese colonization of Taiwan, Wude martial arts culture was introduced and developed by Japanese police.

is, in considering the utilization of representational medium for the first exercise, 84% of the fresh students regarded performance as an appropriate channel for presenting time and it could be produced by teamwork; whilst, most students with design tendencies could thus act as one of the performers without much chance to show their design abilities.

Figure 2. The Freedom for One Minute



Source: S-y Chang 2023.

Figure 3. A Train for the Future



Source: C-p Tseng 2023.

The Exercise of Periaktoi

In this second exercise, students can choose a script or theme story to design the structure and images for their periaktoi, in which at least three scenes can be shown by the revolving of each periaktos. For example, in the work *A Dream of Red Mansions* (Hong Lou Meng, 紅樓夢), the scenarios are based on the traditional Chinese novel, and the students in the team used watercolor to paint the scenes and made additional structures and objects specially around and in front of the triangular prisms (Figure 4). These students intended to challenge the format of traditional periaktoi by extending scenes and spatial elements to the outside of the triangular prisms, as well as showing flowers fading by performance. In addition, the work *A Castle Festival* (Figure 5), attempted to express the story of a festival held at the square of a castle by using a changing spatial structure as their narrative means. These students deliberately used four-cornered pillars instead of triangular prisms to express the sense of stability of the castle building as well as the three-dimensional sense of the tower. It also shows a different aspect of the modern periaktoi and a creative design of the hinge for shaping a rich and flexible scenic change.

Through the co-creative team exercises, students with theoretical tendencies thought about the story and content of the work, and the design students calculated and planned the structure and style of periaktoi, as well as painting and making the model of the scenes with other team members. In the meantime, the students with directing and performing tendencies could discuss the positioning of the performers with the designer, in accordance with the change of scenes and the duration of an act. In addition, this research found that 2 of the 8 teams tried to combine lighting with the change of scenes and performers' positioning when presenting their periaktoi in the project review, so that the work and the process of revolving the periaktoi could be more animated. From the process of collaboration in co-creative teamwork, students could enjoy sharing the stories and creativity of image manipulation and the mechanism of revolving periaktoi with their coworkers. In so doing, the students could comprehend the importance of theater theories and historical cases from this practical assignment, as well as receiving some professional support from other team members. In knowing that the evaluation of their works is mainly dependent on the condition of their collaboration, through the first questionnaire³ it can be seen that 86% of the students would like to continue in the same teams and cooperating with the same team members in the final exercise.

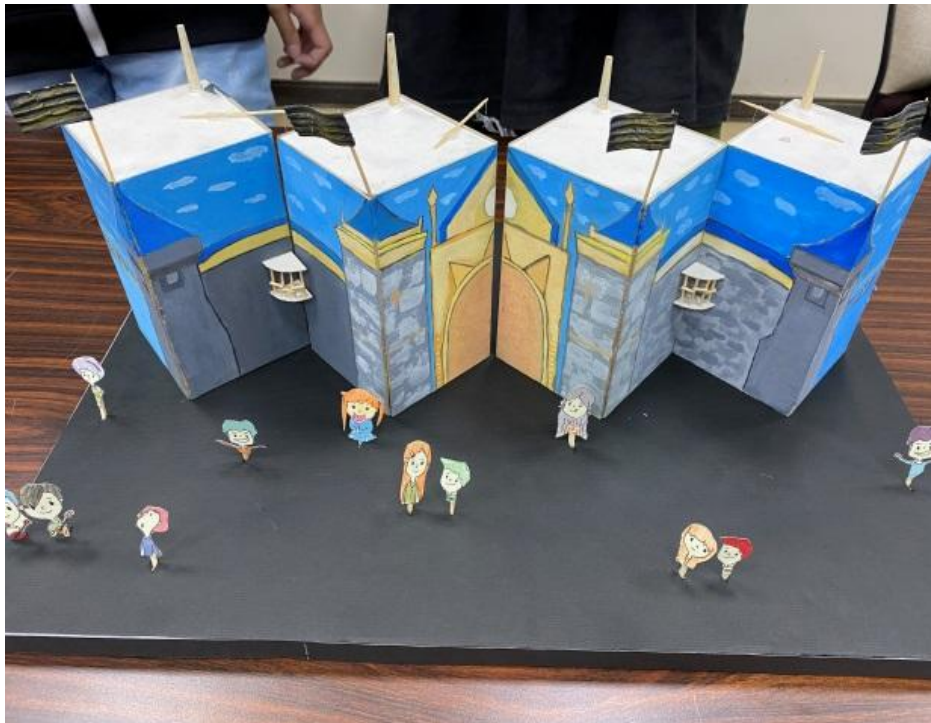
³Appendix 1 is the first questionnaire in Chinese for the course of 'Introduction to Theater Design' in the first semester of 2023. In the question 6, 86% of the students would like to continue cooperating with the same team members in the final exercise.

Figure 4. A Dream of Red Mansions



Source: Tseng, 2023.

Figure 5. A Castle Festival



Source: Tseng, 2022.

The Stories of Takao: The Color Rhythm of a City

The third exercise is set for students to discover the story of Kaohsiung (Takao) city through representing its stories by the color rhythm of the places. Students need to make a conceptual model for an environmental theater and to narrate or perform what/how the stories happen. This exercise is also practiced by a team of three students that can be the same as the previous exercise, and in which a designer, and two students with other tendencies might be included. The story content of the environmental theater is not limited to past events, everyday scenarios or future visions about students' chosen sites can be included. For example, the work *The Rhythm of Sizihwan* reflects on the appearances of color changing of Apen Berch (Chai Shan Mountain, 柴山) and the Sizihwan Bay from a daily basis. In the presentation of their work, one student with design/drawing ability gradually drew on a model with a mountain outline, one student with performing tendencies was playing music and the other one was shaking a bottle with sand inside to create a harmonious relationship among the change of the mountain's color together with the variation of light, the sound of the beach and the painting action of the designer (Figures 6-7).

Figure 6. The Rhythm of Sizihwan



Source: Tseng, 2023.

Figure 7. The Rhythm of Sizihwan



Source: Tseng, 2023.

In the process of developing the third exercise, in some teams the director student might lead the design concept, while in others the designer students could lead the development of scenarios and design production, such as the work *The Rhythm of Sizihwan*. Overall, the level of participation in the works of the design students was relatively higher than the second exercise, while the acting and directing students had less opportunity to show their abilities in the process of drawing and model-making. Besides, there were about 8% of students who disagreed with each other, or who had a quarrel due to disagreement with other members in the early stages. In addition, some students in the co-creative team also had an imbalance in the distribution of workload, or some students only expressed their ideas and did not do much practical work, resulting in the group's progress falling behind and performing poorly. In general, 90% of students enjoyed working with their team members. Finally, it can be seen that the details of each group's creative thinking were slightly improved in the third exercise, and the design performance also improved a lot.

Conclusion

Theatrical performances or the production of a play must be completed by team members with expertise in multiple professions. In terms of the process of interactive cooperation and the achievement of aesthetic quality, theater arts are full of interdisciplinary and transdisciplinary mechanisms of integration. With regard to the curriculum structure of theater arts in the university, cross-professional learning is an inevitable trend. Those in the design fields need to understand the connotation of the script, as well as the playwright's thoughts and historical background. At the same time, a designer also needs to understand the director's philosophy, and the performer's positioning and rehearsal in order to create a work that is respondent to the holistic concept. Similarly, directors and actors also need to have a considerable understanding of design and aesthetic knowledge, so as to properly utilize the works created by designers. The opportunity and vision for having mutual respect for and goodwill to other professions can thus be achieved.

At the end of this paper, it can be emphasized that the problems of cross-disciplinary learning among students who are new to theater arts are quite common. In other words, because students with performing and directing tendencies may have less sufficient knowledge and cultivation of theater design, difficulties in communicating with design professionals are inevitable. Firstly, the main reason can be that the students' selection of their theater expertise is too early, resulting in many conceptual gaps in the understanding of various professions in theater design. It may also be caused by the hierarchical relationship among the power operations in the crew, the director's authority of decision-making and the concept of performance-oriented, and thus it is inevitable that design creativity and aesthetic persistence will be sacrificed. Secondly, regarding the issue of associating theories with practical experiences, the co-creation learning model implemented in the course and the experiential teaching concept of 'the city as theater' could inspire beginners to use opportunities for combining 'learning by doing' with theoretical thinking.

Furthermore, an inclusive learning environment that balances and combines theory with practice can be generated. After two years of research, the second questionnaire⁴ shows that 86% of students were happy with the off-campus experience, and 82% of students liked the method of 'learning by doing'. In off-campus exploration and self-learning, student teams have the opportunity to immerse themselves in the site and discover the life stories of the city, so that their understanding of theatrical design can be connected to reality. In addition, the students' qualitative perception of and association with the places can be strengthened. Through the cultivation of immersive learning and co-creative models in the interdisciplinary course of theater arts, students can have greater potential to integrate literature, drama, theatrical theories, visual arts, theater design/technics and environmental creation, so as to harmoniously co-create and respectively express creative ideas of various professions in theater arts.

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⁴Appendix 2 is the second questionnaire in Chinese for the course of 'Introduction to Theater Design' in the first semester of 2023. In the question 8, 90% of the students are happy to the off-campus experience. And in the question 3, 90% of the students enjoyed the method of 'learning by doing'.

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Appendix

Appendix 1: The 1st Questionnaire for 'Introduction to Theater Design' in the 1st Semester of 2023

國立中山大學劇場藝術學系 一一二學年度上學期

「劇場設計導論」課程意見調查

學號： (自由填寫)

問題：

1. () 請問，課程進行的進度會不會太快：(1).會 (2).不會 (3).不確定
2. () 請問，課程內容的安排與妳(你)原先的認知：(1). 很不同 (2). 很接近 (3). 有些微差異。
3. () 請問，你(妳)希望課程進行的方向是「實作」與「理論」何者多？(1). 實作(2). 理論 (3). 二者平衡。
4. () 請問，課程上若有教科書輔助教學是否幫助你(妳)了解劇場設計的內容：(1). 是 (2). 否 (3). 不確定 (4). 比例可以少一些
5. () 請問，實作練習中，你(妳)們合作的愉快嗎？：(1). 是 (2). 不是 (3). 不確定
6. () 請問，下一個實作練習中，你(妳)喜歡再與同組員合作嗎？：(1). 喜歡 (2). 不喜歡 (3). 不確定
7. () 請問，你(妳)們在實作練習時，同學間的合作與討論，有幫助分享學習成效嗎？：(1). 有 (2). 沒有 (3). 不確定
8. () 請問，你(妳)喜歡本課程有校外教學嗎？：(1). 喜歡 (2). 不喜歡 (3). 不確定

Appendix 2: The 2nd Questionnaire for 'Introduction to Theater Design' in the 1st Semester of 2023

國立中山大學劇場藝術學系 一一二學年度上學期

「劇場設計導論」課程意見調查

2023/12/14

學號：

(自由填寫)

問題：

1. () 請問，本課程與作業安排的進度會不會太快：(1).會 (2).不會 (3).不確定
2. () 請問，課程內容的安排是否讓你建立了對劇場設計的基本認知：(1). 是 (2). 不是 (3). 普通。
3. () 請問，你目前希望課程進行的方向是「實作」與「理論」何者多？(1). 實作(2). 理論 (3). 二者平衡。
4. () 請問，你目前認為課程上沒有以教科書輔助教學是否影響你(妳)了解劇場設計的內容：(1). 是(2). 否 (3). 不確定 (4). 比例上可以有一些
5. () 請問，目前實作練習中，你們合作的愉快嗎？：(1). 是 (2). 不是 (3). 不確定
6. () 請問，以後若有相關的劇場實作，你喜歡再有小組團隊合作嗎？：(1). 喜歡 (2). 不喜歡 (3). 不確定
7. () 請問，你們目前在實作練習時，同學間的合作與討論，有幫助分享學習成效嗎？：(1). 有 (2). 沒有 (3). 不確定
8. () 請問，你喜歡本課程有校外教學嗎？：(1). 喜歡 (2). 不喜歡 (3). 不確定
9. () 請問，你喜歡本課程校外教學多於教室上課嗎？：(1). 是 (2). 不是 (3). 不確定
10. () 請問，你喜歡校外專家與學者的演講或評圖教學嗎？：(1). 喜歡 (2). 不喜歡 (3). 不確定

