

Hybrid Exhibition for Departmental Public Relations through Chronological Storytelling of Undergraduate Award-Winning Works

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Abstract

The purposes of this research were: (1) To explore the needs of the sample group regarding the development of a hybrid exhibition for departmental public relations through chronological storytelling of undergraduate award-winning works; (2) To develop and evaluate the quality of a developed hybrid exhibition; (3) To assess the perception; and (4) To assess the satisfaction of the sample group toward the developed hybrid exhibition. The research was developed as a hybrid exhibition that effectively integrates both online and offline modes of presentation. A survey was conducted with 52 undergraduate students from King Mongkut's University of Technology Thonburi, who were enrolled in the GEN 332 Science Storytelling course in the 2024 academic year. Participants were selected through simple random sampling and asked to attend a hybrid exhibition. The findings revealed that the overall need for developing a hybrid exhibition was rated at a high level. Content quality was evaluated at a good level, while media presentation quality was rated at a good level. Participants' post-exhibition perception scores were significantly higher than their pre-exhibition scores at the .05 level. Satisfaction was reported at the highest level. The results suggest that the hybrid exhibition, employing chronological storytelling through award-winning student work, was of high quality and suitable for dissemination as a Departmental public relations. These initiatives represented efforts to foster a learning environment in this era.

Keywords: hybrid exhibition, department, public relations, chronological storytelling, undergraduate, award-winning works

1. Introduction

The COVID-19 pandemic significantly disrupted global economic and social systems, with recovery remaining slow in sectors such as tourism and education (World Health Organization, 2024). These challenges compelled institutions to embrace digital technologies and hybrid working models as new standards of operation. Amid this rapid transformation, public relations plays a vital role in communicating effectively, enhancing awareness, building credibility, and shaping positive organizational images. For educational institutions, public relations not only strengthens visibility and reputation but also attracts students, parents, and qualified personnel, while fostering relationships with stakeholders and surrounding communities. High-quality public relations media, therefore, serve as a key driver of institutional success, supporting both academic excellence and sustainable growth (Jamprime, 2022). Hopland, A. O., & Nyhus, O. H. (2016) define the learning environment—also called the educational environment or instructional climate—as comprising all elements surrounding learners, both living and non-living, tangible and intangible. These elements interact as supportive or potentially detrimental factors in the learning process.

An effective learning environment encompasses conditions—whether visible or perceived—that actively facilitate learning across multiple dimensions, including physical factors, emotional and affective aspects, developmentally appropriate experiences, academic considerations, values, discipline, and freedom within suitable boundaries. Together, these factors enhance the quality and efficiency of education. Within this context, the physical climate refers to tangible components such as buildings, facilities, instructional media, equipment, and accessible learning spaces (e.g., exhibitions or classroom activities), which exert significant influence on learners at all levels.

A hybrid exhibition is an approach that integrates both on-site and online formats, allowing participants to attend either physically at an exhibition venue or virtually through online platforms, such as websites or virtual environments (Metaverse). This emerging format has gained popularity due to its ability to adapt to situations where physical attendance is not possible, such as during the COVID-19 pandemic. Hybrid exhibitions enhance accessibility, promote knowledge and understanding, and encourage audience engagement through technology and innovation. Moreover, they provide a novel participatory

experience while incorporating public relations media to disseminate information and increase awareness of the exhibition (Longtungirl, 2022). The Metaverse is a technology that simulates a virtual world, enabling people to communicate, perform activities, and interact without boundaries in a digital environment. It functions as a virtual global community hosted on cloud technology, where users can connect through computers, tablets, smartphones, and digital headsets. Spatial is one platform that facilitates the creation of such virtual universes with user-friendly interfaces. The Metaverse is typically built upon multiple technologies, including Virtual Reality (VR), Augmented Reality (AR), and high-speed internet, making it suitable for creating public spaces for digital exhibitions. These platforms allow users to experience immersive environments closely resembling real-life interactions (Lertbamrungrachai, K., 2022). The Metaverse is a powerful tool for education, teaching, and public relations, as it supports immersive learning experiences. Users can participate in virtual simulations, role-playing activities, and shared virtual experiences, enhancing engagement and collaborative learning in a realistic digital setting (Asuncion Pari-Bedoya, I. et al., 2023).

The Department of Educational Communications and Technology at the Faculty of Industrial Education and Technology, King Mongkut's University of Technology Thonburi, provides both theoretical and practical training in educational technology, innovation, and mass communication. The program equips students with skills to pursue diverse careers, covering areas such as media production, multimedia lesson design, animation, and educational video development (U-review, 2018). Although students and faculty have produced notable work that contributes to the department's reputation, there is currently no formal system to collect and showcase these achievements, limiting awareness of the department's accomplishments among the wider public (Faculty of Industrial Education and Technology, 2025). Although the department has produced numerous award-winning undergraduate projects, there has been no comprehensive presentation of this work in an engaging format to promote the department. Highlighting student achievements—demonstrating dedication, skill, and success across various departmental activities—serves to honor the department and reinforce its prestige. Recognition can take multiple forms, such as exhibitions that showcase award-winning student work from 2020 to 2024, including creative media production, TikTok content creation, sustainable innovation projects, advertising design, photography, short film production, and other notable accomplishments.

Storytelling has been a fundamental form of communication in human society since the earliest interactions among individuals and groups, as well as in public presentations. It serves not only as a tool for effective daily communication but also plays a vital role in social and cultural processes, transmitting narratives that may be adapted or newly created for entertainment, education, and moral value inculcation across cultures. Storytelling is thus essential in various fields, including education, business, marketing, arts, and mass communication, as it enhances audience engagement and content retention. In particular, linear storytelling, often referred to as the 'Hollywood Classic' narrative, organizes events sequentially from beginning to middle to end, emphasizing logical continuity and coherence throughout the story (Thongsrikum, S., 2022).

A review of related research in the field was conducted, particularly studies published at an international level, including as follows: research on the design and development of interactive multimedia based on the ADDIE Model to publicize the Department of Educational Communications and Technology (Thamwipat, K., Princhankol, P., 2022); research on the development of an e-exhibition in conjunction with a game-based learning communication activity to raise perception of green nudges for undergraduate students (Kaewsomnues, A et al., 2023); research on the development of digital content in the metaverse combined with participatory communication and learning with religious leaders to enhance students' perception of a community mosque (Thamwipat, K et al., 2024); a study of interactive short films and online activities using the Grow Model to guide senior students (Suwansupa, I, et al., 2024); a study of service learning and digital content development to boost sales for small businesses inside and nearby the university to empower local communities (Thamwipat, K., et al., 2025); a study of LINE OA media development using game-based learning for vocational law skills (Thammarattthara, S., 2025); research on digital content on Google Sites for course subjects to enhance digital literacy through self-directed learning for Thai students (Kittipongpisut, A., et al., 2025); and finally; research on developing a phenomenon-based learning model utilizing digital media on the LINE OA application (Thammarattthara, S., 2025). It can be observed that no research has yet explored the development of hybrid exhibitions to promote the Department of Educational Communications and Technology through award-winning undergraduate student projects.

Based on the background and significance described above, the researcher, serving as a public relations officer and a graduate student in the Department of Educational Communications and Technology, recognizes the importance of developing a hybrid exhibition to promote the department through award-winning undergraduate projects. The exhibition aims to collect and showcase student work while enhancing the visibility and reputation of the Department of Educational Communications and Technology at the Faculty of Industrial Education and Technology, King Mongkut's University of Technology Thonburi. The hybrid exhibition combines on-site displays within the department and a virtual exhibition hosted on the Spatial platform via the department's Facebook page (ECT KMUTT). It features key public relations content and award-winning student projects presented through chronological storytelling techniques. This approach provides an effective channel for disseminating knowledge and information about the department, highlighting student achievements,

and increasing public awareness of the program. This study involves the design and development of a hybrid learning environment tailored to the post-COVID-19 era.

Research Objectives

1. To explore the needs of the sample group regarding the development of a hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work.
2. To develop and evaluate the quality of the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning works.
3. To assess the perception of the sample group toward the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work.
4. To evaluate the participants' satisfaction with the hybrid for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work.

Research Hypothesis

1. The needs of the sample group regarding the development of a hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work.
2. The quality of the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work was at a good level.
3. The post-exhibition perception of the sample group toward the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work is expected to be significantly higher than the pre-exhibition perception at the .05 level.
4. The participants' satisfaction with the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work was at a high level.

Literature Review

Hybrid Exhibition

A hybrid exhibition refers to the display of work or information for promotional purposes, organized both on-site at various locations and online through platforms such as the Metaverse or live streaming during the exhibition. The concept and process of a hybrid exhibition are closely related to a hybrid event, which integrates offline and online participation simultaneously. Attendees can choose their mode of participation, rather than simply attending in person while watching a live stream online. Hybrid events provide equitable engagement opportunities for both online and offline participants. Key advantages of hybrid events include: (1) simultaneous participation of both offline and online attendees in activities, (2) enhanced event atmosphere, and (3) broader connectivity beyond the physical venue (Happenn, 2022). In this study, the researcher implemented an on-site exhibition with wall displays at the department and an online exhibition hosted on the Metaverse, displayed via the Facebook page of the Department of Educational Communications and Technology. These exhibitions aimed to foster a learning environment.

Metaverse

The Metaverse is a virtual world that integrates various technologies with a simulated environment, enabling users to interact and engage in activities collaboratively. Users assume the role of avatars, three-dimensional representations that express their identity within the virtual world, making interactions in the Metaverse more immersive and realistic than those on conventional social media platforms (Upathana, P., 2022). The Metaverse provides public spaces for hosting digital exhibitions, facilitating interaction through virtual activities, and can also be applied for online meetings or learning. Users can upload and interact with digital content in multiple formats, with support for up to 50 participants per Metaverse space, and integration with platforms such as MetaMask, Google, Apple, and Microsoft. Three-dimensional avatars can be created via camera, and screen sharing within the Metaverse is possible (Lertbamrunghchai, K., 2022). In this study, the researcher utilized the Spatial.io platform to enhance immersive experiences for undergraduate students. Previous research related to the Metaverse includes "The Development of Digital Content in the Metaverse Combined with Participatory Communication and Learning with Religious Leaders to Enhance Students' Perception of the Community Mosque" (Thamwipat, K. et al., 2024) and "Learning Exhibition Combined with QR Code Technology on the Topic of ASEAN for Mathayom Suksa 4 of Thepsalaprachasan School" (Chanpeng, P. et al., 2023), which similarly employed Metaverse technologies.

Public Relations

Public relations plays a crucial role in creating a positive image for organizations and institutions, providing knowledge,

disseminating news, reporting activities, and communicating changes within the organization. Simultaneously, public relations serves as a gateway for receiving public feedback regarding the organization. Consequently, public relations practices are widely recognized and implemented across both public and private sectors. It is essential for personnel to understand and utilize public relations as a tool to achieve organizational success (Nunphakdee, B., 2012). Related studies include the development of multimedia and activities to promote products made by state enterprise communities in the Bangmod project 4.0 through community-based learning (Thamwipat, K., et al., 2019). In this study, a hybrid exhibition was developed to promote the department using chronological storytelling techniques through award-winning undergraduate student projects.

Chronological Storytelling

Storytelling is a crucial technique for organizing information in a compelling, clear, and easily understandable manner, enabling effective communication with the audience. It involves presenting information sequentially, utilizing well-structured narratives, multidimensional characters, emotional engagement, and appropriate media to enhance interest and retention. Storytelling conveys tacit knowledge derived from personal experiences, memorable events, education, accumulated work practice, or inherent talent, allowing the audience to apply the knowledge without starting from scratch. Storytelling can be delivered through various formats, such as written narratives, video clips, or presentation slides (Phanadamrong, E., 2016). Related studies include the development of video content for an organization's public relations by using the three-act structure storytelling technique (Thamwipat, K. et al., 2023) and digital video production using storytelling of the death railway (Ayuwong, K. et al., 2023). In this study, storytelling techniques were applied to student projects from 2020 to 2024.

2. Chronology of the Research

2.1 Time of Conduct A Research

The research was conducted with the following scope of content:

- A. Beginning (1994): The history and development of the Department of Educational Communications and Technology.
- B. Middle (2017): The department's motto, philosophy, and mission.
- C. End (2020-2024): Award-winning projects by undergraduate students of the Department of Educational Communications and Technology.

2.2 Audience

A population was used for the further study of the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work. The participants included 60 undergraduate students from the Faculty of Industrial Education and Technology, King Mongkut's University of Technology Thonburi, who were enrolled in the course GEN332: Science Storytelling during the summer semester of the 2024 academic year.

2.3 Object of Research

The sample for this study consisted of attendees of the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work. Simple random sampling was employed by drawing lots from the class groups of undergraduate students enrolled in GEN332 Science Storytelling at the Faculty of Industrial Education and Technology, King Mongkut's University of Technology Thonburi, in the 2024 academic year. A total of 52 students participated during the summer semester of 2024. The sample size was determined based on the Krejcie & Morgan table with a 5% margin of error (TSIS Team, 2020).

2.4 Consultants

The experts are individuals with extensive knowledge, skills, and expertise, selected to evaluate the quality of the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work. The experts were chosen through purposive sampling, based on their recognized qualifications and willingness to participate. Three experts were assigned to each of the following areas, for a total of nine experts: (1) Evaluation and Assessment Experts: to assess the Index of Item-Objective Congruence (IOC) for all research instruments; (2) Content Experts: to evaluate the quality and accuracy of the exhibition content; and (3) Media and Presentation Experts: to evaluate the quality of the developed media and activities within the exhibition.

2.5 Research Experiences

The research instruments used to collect data in the development of a hybrid exhibition for departmental public relations through chronological storytelling of undergraduate award-winning works are as follows:

- 1) Content and media quality assessment form: for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work.
- 2) Perception assessment form: To measure participants' perception before and after attending the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work.
- 3) Satisfaction assessment form: To assess participants' satisfaction with the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work.

All research instruments were validated using the Index of Item-Objective Congruence (IOC) (Prince of Songkla University, 2000) by three experts in educational measurement and assessment, with IOC values ranging from 0.5 to 1.00. Furthermore, the study was approved by the Human Research Ethics Committee of King Mongkut's University of Technology Thonburi (KMUTT-IRB-2025/0611/182) prior to data collection, in accordance with university regulations.

2.6 Research Tasks

This study was conducted as a research and development project, in which the researcher carried out experiments with the selected sample group. The detailed research procedures were as follows:

- 1) Survey the needs of the sample group regarding the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work of undergraduate students.
- 2) Develop the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work.
- 3) Have experts evaluate the content quality and presentation media using assessment tools to identify deficiencies and make necessary revisions before the exhibition is published.
- 4) Publish the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work.
- 5) Administer pre-exhibition perception assessments to the sample group, followed by post-exhibition perception and satisfaction evaluations after exposing the hybrid exhibition.
- 6) Collect data from expert evaluations (content and presentation media), perception assessments, and satisfaction surveys, calculate the mean values, and compare them against the research hypotheses.

After the development of the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work, the researcher analyzed the data obtained from expert evaluations, as well as the pre- and post-exhibition perception assessments and satisfaction surveys of the sample group, using statistical methods.

Table 1. Research Implementation Procedures

No.	Research Steps
1	Study relevant concepts, theories, and research to guide the development of the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work.
2	Survey the needs of the target group regarding the development of the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work.
3	Develop the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work.
4	Have experts evaluate the quality of content and presentation media using an assessment form to identify deficiencies and make corrections before publication.
5	Revise the assessment tools and the hybrid exhibition based on expert feedback.
6	Publish the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work.
7	Ask the target group to complete a pre-exhibition perception assessment.
8	Conduct activities with the target group to enhance understanding and engagement through the hybrid exhibition.
9	After viewing the exhibition, have the target group complete post-exhibition perception and satisfaction assessments.
10	Collect and analyze data from expert evaluations, perception assessments, and satisfaction assessments, calculate mean scores, and compare them with the hypotheses.

2.7 Statistics Used in the Study

The data were analyzed by calculating the mean ($\bar{x}$) using frequency distribution and the standard deviation (SD). In addition, a paired-sample t-test was employed to compare the evaluation results before and after exposure to the media and activities.

3. Results

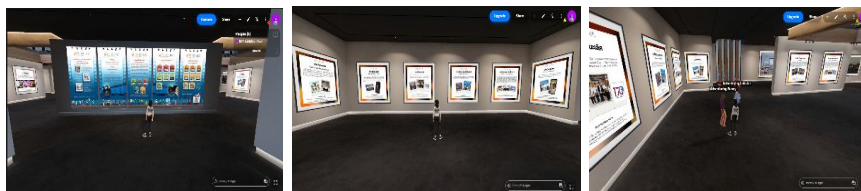
3.1 Survey Results on the Needs of the Hybrid Exhibition

Table 2. Survey results on the needs of the hybrid exhibition

Evaluation Item	Analysis Results	
	$\bar{x}$	S.D.
1. Type of Exhibition		
1.1 On-site exhibition at the Department of Educational Communications and Technology	4.67	0.68
1.2 Online exhibition on the Metaverse	4.67	0.71
1.3 Hybrid exhibition at the department and Facebook page	4.81	0.40
Average	4.72	0.61
2. Type of Media		
2.1 Infographic	4.54	0.78
2.2 Motion graphics	1.87	1.43
2.3 Video content using chronological storytelling	3.83	0.88
Average	3.41	1.55
3. Content (Chronological Storytelling)		
3.1 Beginning: History of the Department	4.52	0.54
3.2 Middle: Motto, Philosophy, Mission	4.56	0.61
3.3 End: Award-winning undergraduate student works (2020-2024)	4.60	0.50
Average	3.82	1.51
4. Visuals		
4.1 Use colorful graphics	2.96	1.67
4.2 Use graphics emphasizing departmental/university identity	2.98	1.75
4.3 Attractive visuals consistent with chronological content	3.96	0.79
4.4 Visuals with explanatory text	4.71	0.46
Average	4.15	0.85
5. Audio		
5.1 Narration: clear, lively, energetic	2.96	1.67
5.2 Narration: clear, resonant, content-aligned	2.98	1.75
5.3 Background music: lively	3.96	0.79
5.4 Background music: emphasizes departmental/university identity	4.62	0.69
Average	3.63	1.49
Overall Mean Rating	3.93	1.34

From Table 2, the survey results on the needs of the sample group regarding the development of the hybrid exhibition indicated that, when compared with the established criteria, the overall demand was at a high level ($\bar{x}=3.93$, S.D. =1.34). Considering each aspect, the item with the highest mean score was the type of exhibition desired, which was rated at the highest level ($\bar{x}= 4.72$, S.D. = 0.61). This was followed by the visuals aspect ($\bar{x}= 4.15$, S.D. = 0.85) and the content aspect, using the chronological storytelling technique, which was also rated at a high level ($\bar{x}= 3.82$, S.D. = 1.51). The audio aspect was similarly rated at a high level ($\bar{x}= 3.63$, S.D. =1.49), while the type of media desired by participants was at a moderate level. ($\bar{x}= 3.41$, S.D. =1.55).

3.2 Results of the Development of the Hybrid Exhibition



Figures 1-3. Example images of online exhibitions on Spatial



Figures 4-5. Example of an on-site exhibition at the department



Figures 6. The QR code link for the Online Exhibition on Spatial

3.3 Results of the Content Quality Assessment

Table 3. The quality assessment by content experts

Evaluation Item	Analysis Results	
	$\bar{x}$	S.D.
1. Typography and Use of Color		
1.1 Content is clear, accurate, and credible	4.00	0.00
1.2 Content is concise, understandable, and interesting	4.33	0.58
1.3 Content is appropriate for the target audience	4.67	0.58
1.4 Content presentation is concise, engaging, and appropriate, using a suitable chronological storytelling technique	4.33	0.58
Average	4.33	0.49
2. Content and Illustrations		
2.1 Language used is correct and appropriate	4.33	0.58
2.2 Text conveys meaning clearly and is contextually appropriate	5.00	0.00
2.3 Illustrations are consistent with the content	4.00	0.00
2.4 Illustrations are appropriate and accurate	5.00	0.00
Average	4.58	0.51
3. Applicability		
3.1 Ease of use for gaining awareness about the field	4.33	0.58
3.2 Hybrid exhibition can enhance the field's image	4.67	0.58
3.3 Hybrid exhibition is suitable for the target audience	4.67	0.58
3.4 Hybrid exhibition can enhance awareness of the field	4.33	0.58
Average	4.50	0.52
Overall Mean Rating	4.47	0.51

From Table 3, the overall content quality of the hybrid exhibition, as evaluated by the content experts, was found to be at a good level ($\bar{x} = 4.47$, S.D. = 0.51). When examining each aspect individually, the highest mean score was for content and illustrations aspect, which was rated at a very good level ($\bar{x} = 4.58$, S.D. = 0.51). The next one was the applicability aspect, rated at a good level ($\bar{x} = 4.50$, S.D. = 0.52), followed by typography and use of color aspect, which was also evaluated at a good level ($\bar{x} = 4.33$, S.D. = 0.49).

3.4 Results of the Media Presentation Quality Assessment

Table 4. The quality assessment by media presentation experts

Evaluation Item	Analysis Results	
	$\bar{x}$	S.D.
1. Typography and Color		
1.1 Font size is easy to read and clear	4.00	1.00
1.2 Font color and style are aesthetically pleasing	4.33	0.58
1.3 Text layout is appropriate	4.33	1.15
Average	4.22	0.83
2. Images		
2.1 Images are appropriate and interesting	4.33	0.58
2.2 Images clearly convey meaning	4.33	0.58
2.3 Images display well both online and offline; resolution is clear	4.00	1.00
Average	4.22	0.67
3. Audio		
3.1 Background music volume is appropriate, clear, and smooth	4.33	0.58
3.2 Background music enhances the exhibition experience	4.67	0.58
3.3 Background music is appropriate for the content	4.00	0.00
Average	4.33	0.50
4. Presentation		
4.1 Presentation channels are convenient and easily accessible	4.33	0.58
4.2 Chronological storytelling format is concise and engaging	4.67	0.58
4.3 Hybrid format is suitable for the target audience and easy to access	5.00	0.00
Average	4.67	0.50
Overall Mean Rating	4.36	0.64

From Table 4, the evaluation of media presentation quality by the experts, when compared with the criteria, was found to have an overall quality at a good level ($\bar{x} = 4.36$, S.D. = 0.64). When considering the quality in each aspect, the item with the highest mean was presentation aspect, which had a very good level ($\bar{x} = 4.67$, S.D. = 0.50). The second highest mean was audio aspect, which had a good level ($\bar{x} = 4.33$, S.D. = 0.50), and typography and color aspect had a good level ($\bar{x} = 4.22$, S.D. = 0.83).

3.5 Results of the Evaluation of the Perception of the Sample Group

Table 5. The evaluation results of the participants' perception towards the hybrid exhibition

Variables	n	mean	s.d.	t	sig
Pre-test score	52	1.48	0.90	22.85	0.00*
Post-test score	52	4.51	0.65		

*.05 significance level

From Table 5, the assessment of participants' perceptions regarding the development of a hybrid exhibition for departmental public relations through chronological storytelling of undergraduate award-winning works indicates that, when compared with the established criteria, the participants' pre-test scores were at a low level ($\bar{x} = 1.48$, S.D. = 0.90). After attending the exhibition, the participants' post-test scores increased to a high level ($\bar{x} = 4.51$, S.D. = 0.65). A t-test analysis revealed a t-value of 22.85, demonstrating that the post-test scores were significantly higher than the pre-test scores at the .05 level of significance ($t = 22.85$).

3.6 Results of the Satisfaction Assessment of the Sample Group

Table 6. The evaluation results of the participants' satisfaction with the hybrid exhibition

Evaluation Item	Analysis Results	
	$\bar{x}$	S.D.
1. Content		
1.1 The content of the hybrid exhibition incorporates chronological storytelling techniques.	4.62	0.59
1.2 The content of the Hybrid Exhibition for Public Relations is clear and engaging.	4.60	0.60
1.3 The content of the Hybrid Exhibition for Public Relations is easy to understand.	4.42	0.63
1.4 The content of the Hybrid Exhibition for Public Relations is useful and can be practically applied for public relations.	4.64	0.59
Average	4.57	0.60
2. Typography and Language Usage		
2.1 Typography and content are clear and concise.	4.47	0.60
2.2 Typography and language used are appropriate for the target audience.	4.47	0.60
2.3 The language used is concise and clear.	4.44	0.60
2.4 The language used is consistent with the content presented.	4.51	0.54
Average	4.47	0.58
3. Visuals and Audio		
3.1 Visuals and audio used in the hybrid exhibition are consistent with the content.	4.65	0.52
3.2 Visuals and audio used in the hybrid exhibition are attractive and engaging.	4.64	0.56
3. Visuals and Audio		
3.3 Visuals and audio used in the hybrid exhibition effectively convey content clearly and understandably.	4.65	0.55
3.4 The audio used is of good quality and supports the presentation format.	4.51	0.54
Average	4.61	0.54
4. Presentation		
4.1 The duration of the hybrid exhibition presentation is concise and easy to understand.	4.80	0.45
4.2 The presentation format using chronological storytelling is interesting.	4.58	0.53
4.3 The presentation format using chronological storytelling is appropriate for the hybrid exhibition.	4.56	0.50
4.4 The presentation format using chronological storytelling helps in understanding the content and enhances accessibility.	4.40	0.71
Average	4.59	0.57
Overall Mean Rating	4.56	0.58

From Table 6, the results of the sample group's satisfaction evaluation after attending the hybrid exhibition, when compared with the criteria, show that overall satisfaction is at the highest level ($\bar{x} = 4.56$, S.D. = 0.58). When examining satisfaction in each aspect, the item with the highest mean was the visual and audio aspect, with satisfaction at the highest level ($\bar{x} = 4.61$, S.D. = 0.54). The next highest was presentation aspect, with satisfaction at the highest level ($\bar{x} = 4.59$, S.D. = 0.57), followed by content aspect, with satisfaction at the highest level ($\bar{x} = 4.57$, S.D. = 0.60), and finally, typography and language usage aspect, with satisfaction at a high level ($\bar{x} = 4.47$, S.D. = 0.58).

4. Discussion

Based on the research study for the development of the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work, the research findings were consistent with the hypotheses. The study began with a survey of the need for developing a hybrid exhibition. The survey was conducted with 60 students from the Faculty of Industrial Education and Technology, King Mongkut's University of Technology Thonburi, who were enrolled in the course GEN332 Science Storytelling during the summer semester of the 2024 academic year. The survey results indicated that the participants had a high level of demand overall. They preferred the exhibition to be in a hybrid format, combining both on-site and online components, to allow easy access, provide a richer experience, and incorporate promotional media such as infographics and video clips using storytelling techniques. This approach was intended to enhance information retention and save viewing time, as the audience could engage with both online and on-site media simultaneously. These findings are consistent with previous research on the development of digital content in the metaverse, combined with participatory communication and learning with a religious leader to enhance students' perception of a community mosque (Thamwipat, K et al., 2024). This is an international journal study that examined the metaverse in conjunction with participatory communication and learning with religious leaders. The results revealed that the assessment of needs was at a high level. The overall quality of content and presentation media was found to be good and very good, respectively. The digital content developed in the metaverse, combined with participatory communication and learning with religious leaders, was of good quality.

The results of developing the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work indicated that it can be used to publicize the department, enhance knowledge and understanding of the department, and build a positive image for the department. The scope of content was defined as follows: (a) The Beginning (1994) –the history of the Department of Educational Communications and Technology; (b) The Middle (2017) – the motto, philosophy, and mission of the Department of Educational Communications and Technology; (c) The End (2020-2024) - award-winning work of undergraduate students in the Department of Educational Communications and Technology. These findings are consistent with the research study entitled *The Metaverse in University Education during COVID-19: a systematic review of success factors* (Chamorro-Atalaya, O et al., 2023). This research applied virtual reality and Metaverse technologies to the context of university education, employing survey and descriptive research methods. A total of 738 documents were retrieved from Scopus, ERIC, Taylor & Francis, and Google Scholar databases, from which 16 relevant articles were selected for in-depth analysis. The findings revealed that virtual reality represented the most prevalent form of Metaverse technology adopted in higher education. Moreover, key factors reflecting the educational impact of the Metaverse included improvements in students' academic achievement and enhanced student interaction. This article seeks to elucidate the role of the Metaverse in advancing university education, highlighting these factors as indicators of its successful practical application.

The evaluation of the quality of the hybrid exhibition by content experts, regarding the study of developing the hybrid exhibition when compared with the established criteria, was found to have an overall quality at a good level. ($\bar{x} = 4.47$, S.D. = 0.51). The evaluation results of the media presentation quality by the experts indicated that the overall quality is at a good level. ($\bar{x} = 4.36$, S.D. = 0.64). This finding was consistent with the stated hypothesis. The researcher applied the ADDIE Model in designing the content, including planning and collecting information about the department, such as its history, background, and award-winning undergraduate student works. The application of the ADDIE design principles (Salas-Rueda et al., 2020) helped ensure that the content presented through the hybrid exhibition was engaging, easily accessible, and effectively enhanced the knowledge and understanding of the target audience. This approach made the media engaging, easily accessible, and well-structured, following a chronological sequence, which helped viewers gain a clear understanding of the department and recognize students' achievements through their award-winning works. It effectively promoted the department's visibility and presented the content in an interesting and accessible exhibition format. This aligns with the research study entitled *the development of video content for an organization's public relations by using the three-act structure storytelling technique* (Thamwipat, K et al., 2023), which applied the ADDIE Model in planning and designing the work. It is also consistent with the research study on digital video production using storytelling of the death railway (Ayuwong, K. et al., 2023). This study was produced using the 3P video production process, and the experts commented that the video effectively gathered information consistent with the content, presented clear and sharp visuals, and appropriately arranged text elements.

The results of the perception assessment of the sample group, after viewing the hybrid exhibition for public relations of the Department of Educational Communications and Technology through the chronological storytelling of undergraduate award-winning work, revealed that the post-exhibition test scores were significantly higher than the pre-exhibition test scores at the .05 significance level. This was because the hybrid exhibition thoroughly studied and compiled detailed information about the department, resulting in public relations media that contained clear and precise content. It effectively explained the history of the department and showcased the award-winning work of undergraduate students efficiently, while also enhancing the department's visibility. This finding is consistent with the research study on learning exhibition in common with the QR

code technology on the topic of Asean for Mathayom suksa 4 of Thepsalaprachasan School (Chaolumbua, S., Meesuwan, W., 2015), which develops and evaluates the effectiveness of a learning exhibition integrated with QR code technology. The results showed that the learning achievement of Grade 10 students on the topic of ASEAN was significantly higher than the 50% criterion after the learning process at the .05 level of statistical significance. This was because the QR code-based learning exhibition incorporated a variety of media, which effectively attracted students' attention and helped them transform abstract concepts into a concrete understanding of the subject matter.

The evaluation of the participants' satisfaction after attending the hybrid exhibition developed, when compared with the established criteria, indicated that the overall satisfaction was at the highest level ($\bar{x} = 4.56$, S.D. = 0.58). This is consistent with the established hypothesis, as the development of the hybrid exhibition involved surveying the needs of the participants and designing the media according to expert recommendations. Consequently, the developed exhibition was suitable for the target group, engaging, easily accessible, and presented promotional media using virtual reality technology on Spatial. This aligns with the research study on virtual exhibition by using the Spatial website to promote the dissemination of academic work productivity for teacher candidates (Chanpeng, P et al., 2023), which developed the virtual exhibition room by utilizing the Spatial app to present a 360 - degree virtual exhibition, with supporting media including 3D images, still images, audio, and video clips. After accessing the virtual exhibition room, the participants' overall satisfaction was at the highest level. Therefore, in developing exhibitions or promotional media, technology should be integrated with information presentation to make it more engaging and accessible to the target audience. Moreover, incorporating virtual reality technology in the presentation helps increase satisfaction among student viewers and enhances the overall effectiveness of the public relations tools. Iasson, I. & Rimón, R. (2025) examined *Beyond Four Walls: Exploring the Relationships Between Physical Learning Environments, Technological Resources, and Sense of School Belonging* and found that perceptions of classroom size and color are key determinants of students' sense of belonging, with moderate positive correlations across physical conditions such as lighting, acoustics, furniture, and windows. Technological resources served as a significant partial mediator between classroom conditions and school belonging, emphasizing the importance of resource availability for engagement and inclusion. Consistent with these findings, the present study revealed high student perception and satisfaction with the learning environment, particularly the developed hybrid exhibition, suggesting that educational institutions should continually enhance and refine their learning environments to remain effective and responsive to learners' needs.

5. Conclusion

The findings indicated that the hybrid exhibition was both effective and well-received among participants. It demonstrated high content quality, appropriate media presentation, and a high level of participant satisfaction. The significant improvement in post-exhibition perception scores suggested that the exhibition enhanced participants' learning experiences and engagement. Overall, these results implied that the hybrid exhibition functioned as an innovative educational practice and an effective public relations strategy for the department, contributing to the public relations of an interactive and engaging learning environment in the digital era.

Limitations

This research used the free version of the Spatial.io program, which imposed certain limitations, including storage space constraints, limited capacity for the number of users, and file size restrictions—large files may load slowly, resulting in a less smooth visitor experience. Additionally, some software compatibility issues may occur, such as incomplete object loading or unstable movement. Storage space and user capacity were, therefore, notable limitations.

Suggestions

1. A hybrid exhibition can enhance audience perception as it provides both online and onsite presentations, offering convenient access and flexibility for audiences to engage at their preferred time. Moreover, the use of the spatial.io platform fostered a virtual reality experience that aligned with the media consumption behaviors of younger generations.
2. Educational institutions should promote the application of storytelling techniques in their instructional media or promotional materials. Furthermore, storytelling encompasses various methods that can help structure the institution's intended content in a more comprehensible manner, thereby enhancing communication effectiveness and audience perception.
3. Educational institutions should therefore prioritize the development of hybrid learning environments, including classrooms, on-site and online exhibitions, and supporting facilities, to ensure accessibility for learners and other interested audiences. In the contemporary context, such hybrid learning environments can also serve as an effective means of institutional public relations, particularly through the integration of Metaverse technologies.

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Authors' contributions

Ngenjareanrung, C., was responsible for study design, media production, data collection, and drafted the manuscript.

Princhankol, P., and Thamwipat, K. were responsible for revision. All authors read and approved the final manuscript.

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