

**INTERNATIONAL JOURNAL OF
EDUCATION, PSYCHOLOGY
AND COUNSELLING
(IJEPC)**www.ijepe.com**AN INDUSTRY-ORIENTED GAP ANALYSIS OF COMIC
CURRICULUM IN CHINESE HIGHER EDUCATION**Xiaodong Wang¹, Neesa Ameer Mohamed Salim^{2*}, Azhar Abd Jamil³, Ping Liu⁴¹ Faculty of Art and Design, Universiti Teknologi MARA, Malaysia
Email: 2021402624@student.uitm.edu.my² Faculty of Art and Design, Universiti Teknologi MARA, Malaysia
Email: neesa@uitm.edu.my³ Faculty of Art and Design, Universiti Teknologi MARA, Malaysia
Email: azhar388@uitm.edu.my⁴ Faculty of Art and Design, Universiti Teknologi MARA, Malaysia
Email: 2021280206@student.uitm.edu.my

* Corresponding Author

Article Info:**Article history:**

Received date: 31.07.2025

Revised date: 18.08.2015

Accepted date: 03.09.2025

Published date: 01.10.2025

To cite this document:

Wang, X., Salim, N. A. M., Abd Jamil, A., & Ping, L. (2025). An Industry-Oriented Gap Analysis of Comic Curriculum in Chinese Higher Education. *International Journal of Education, Psychology and Counseling*, 10 (60), 176-185.

DOI: 10.35631/IJEPC.1060012**This work is licensed under** [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)**Abstract:**

This study investigates the alignment between comic curricula in Chinese higher education institutions and the practical demands of the comics industry, employing a gap analysis approach. Semi-structured interviews were conducted with six senior industry experts from major cities in China, and the data were analysed using NVivo to identify primary industry expectations: creative skills at 60.59%, technical skills at 31.76%, and supporting skills at 7.65%. Curricula from two selected universities, totally 157 courses and 8,908 contact hours, were examined and categorised. The gap analysis revealed substantial undersupplies in creative courses (47.88% in contact hours) and technical skills (15.68%), contrasted with oversupplies in supporting (13.32%), practice (30.61%), and unrelated courses (19.63%). These discrepancies indicate a misalignment in resource allocation that affect graduate employability. The study suggests prioritizing creative and technical training, integrating industry-relevant practice, and reducing unrelated courses. For future study, expanding the scope to more universities or incorporating international comparisons could provide deeper insights into optimizing comic education.

Keywords:

Comics Education; Comics Industry; Gap Analysis; Curriculum Problem; Higher Education

Introduction

Comics have long been recognized as a versatile and influential art form that cuts across cultural and geographical divides, continually adapting to new technologies and audience preferences (Hatfield & Beaty, 2020). Originating from simple illustrations, comics have evolved into complex narratives that blend visual and textual elements, giving rise to globally successful intellectual properties such as Iron Man, Superman, Dragon Ball, and One Piece (Knapp, Hennig-Thurau, & Mathys, 2014; Whitten, 2021). These examples not only highlight the artistic value of comics but also underscore their substantial economic contributions, generating billions in revenue through adaptations in film, merchandise, and digital media.

In China, the comics industry has entered a period of rapid growth, fueled both by domestic consumption and the wider global appetite for cultural products from China. In response, the Ministry of Education approved bachelor's programs in comics in 2016, aiming to build a professional talent base that could sustain and expand the industry (China, 2024). While this policy addressed an urgent need for skilled practitioners capable of producing engaging content, the relatively recent establishment of such programs has brought its own set of problems. Curricula have often been drafted quickly, sometimes without sufficient consultation with industry, and the result is a limited degree of alignment between training in universities and the demands of professional practice (Guixiu, Xiaozhe, & Xuejiao, 2022).

Existing research has revealed some problems in China's comics higher education. A common problem is the lack of teachers with industry experience, which leads to a disconnect between teaching and industry (Xiaoye & Xianna, 2021). Course structures often lean heavily toward theory, leaving less space for practical studio work, so that graduates leave with strong conceptual knowledge but relatively limited hands-on skills (Sijie, 2021; Xiang, 2020). In addition, there are still few professional textbooks and academic resources for comics, which limits the depth of students' learning (Guixiu et al., 2022; Jourdan, 2021). These factors have combined to create a mismatch between the outcomes of higher education and industry expectations, with many graduates finding it difficult to find work or effectively adapt to positions requiring creativity and technical expertise.

This misalignment has broader implications. Without a stable supply of well-trained talent, China's comics industry may struggle to keep pace with more established industries like those in Japan or the United States. Reforming curriculum design to meet industry needs would not only improve graduate employability but also foster cultural innovation and enhance China's contribution to the global creative economy (Qiu, Lu, Guo, & Yen, 2025). Based on this research background, this study employed gap analysis to identify discrepancies between university curricula and industry expectations and to propose recommendations for curriculum reform.

The research objectives are as follows:

1. To identify industry needs by interviewing experienced experts.
2. To analyse the categories and resource allocation of current university comics programs.
3. To conduct a systematic gap analysis to identify gaps between education and industry and make recommendations for curriculum reform.

By achieving these research objectives, this study aims to make an empirical contribution to broader creative education reforms. The study provides practical insights to help policymakers, educators, and industry stakeholders develop comics curricula that are both academically rigorous and relevant.

Literature Review

Gap analysis provides the theoretical foundation for this study. Gap analysis has been widely used as a methodological tool in different fields, including education, where it helps in comparing existing performance with target outcomes (Jennings, 2000; Kim & Ji, 2018). It outlines established methods for evaluating whether educational programs meet their intended objectives and identifies the particular challenges faced by creative disciplines.

In higher education, the method has been applied to examine whether courses are effectively delivering the expected competencies. For example, in nursing programs, students are assessed to see whether they have achieved the required professional skills (Fater, 2013), and in Central European universities, students are assessed to see whether they improve the overall quality of teaching (Hrnciar & MadzĀk, 2013). These examples demonstrate that this approach can be used to examine deficiencies in the allocation of educational resources and suggest areas for reform. Similar assessments in the arts have also highlighted the gap between curriculum output and industry needs, emphasizing the importance of integrating creativity development with technical skills (Ahn, Clermont, & Höfer-Diehl, 2017).

Studies on comics education in China reveals a recurring dilemma: curricula are often disconnected from industry needs, leaving students ill-prepared for professional tasks (Xiang, 2020). Guixiu et al. believe that adopting a “new liberal arts” framework with a greater focus on innovation and entrepreneurship can make the curriculum more effective in responding to the rapidly changing industry environment (Guixiu et al., 2022). Other studies have pointed to a lack of faculty with industry backgrounds and a shortage of suitable teaching resources, both of which contribute to gaps in graduate training (Sijie, 2021; Xiaoye & Xianna, 2021). In contrast, international models such as the United States and Japan focus more on the integration of narrative experiments and digital tools, which may provide useful reference for Chinese institutions (Hatfield & Beaty, 2020; Jourdan, 2021).

The broader literature on creative industries also reinforces the case for curriculum reform as a means of improving graduate employability (Bridgstock, 2019; Crimmins, Lipton, McIntyre, de Villiers Scheepers, & English, 2023). For example, research in digital arts emphasizes that if students want to succeed, they must develop both technical skills and creativity (Asare, Walden, Aniagyei, & Emmanuel, 2023; Hu & Li, 2025). Comparative research further shows that programs work best when they are closely linked to industry and combined with a flexible curriculum design (Olo, Correia, & Rego, 2021).

Overall, this study demonstrates the value of applying gap analysis to Chinese comics education, identifies deficiencies in curriculum design, and provides an empirical basis and reform direction for bridging the gap between higher education and industry needs.

Methodology

This study employed a mixed methods approach, combining qualitative and quantitative research, to examine the extent to which comics curricula in Chinese higher education align with industry needs. Its core tool was a gap analysis, which enabled a structured comparison between industry expectations and the curricula currently offered by universities (Jennings, 2000; Kim & Ji, 2018). Existing research has demonstrated the value of gap analysis in education systems, for example in nursing programs, where it is used to assess professional competence, and in Central European higher education, where it helps improve teaching quality (Fater, 2013; Hrnčiar & Madzák, 2013).

Two key data sets for gap analysis are the current state and future expectations. To identify the comics industry's expectations for education, we interviewed industry experts and systematically reviewed current university curricula to understand the current state. Comparing these two sources of evidence allows us to identify areas of gaps and propose potential remedies. Bringing together expert testimony and curriculum data provides a fuller perspective on the challenges under investigation.

Interview

To gather first-hand views from the industry, the study relied on semi-structured interviews as the main form of data collection. Six senior professionals were selected through purposive sampling: three chief or senior editors and three CEOs or directors, each with more than a decade of experience in major comics hubs such as Shanghai, Beijing, Guangzhou, and Hangzhou. This sampling criterion was intended to ensure both the depth and the credibility of the responses (see Table 1).

Each interview lasted roughly an hour and was carried out by telephone after participants had received an outline of the questions and given their consent. All conversations were recorded and later transcribed using the Tongyitingwu platform to secure accuracy.

The transcripts were analysed in NVivo through a process of thematic coding. The procedure followed three stages: first, open coding to identify preliminary themes; second, axial coding to bring related ideas together into subcategories; and finally, selective coding to define the main categories. The frequency of references was then counted and ranked by percentage in order to highlight priorities—for example, the emphasis placed on creativity compared to support functions. Using this step-by-step approach helped reduce bias while clarifying the industry's most pressing needs.

Table 1: Respondent Information

No	Years of Work Experience	Position	Location
1	21	Chief Editor	Shanghai
2	20	Chief Editor	Shanghai
3	19	CEO	Guangzhou
4	13	Director	Beijing
5	12	Senior Editor	Beijing
6	11	Director	Hangzhou

Content Analysis

Curriculum materials were collected from two universities that have been running comic degree programs for more than six years and have revised them at least twice. These criteria were set to ensure that the programs were relatively mature and representative. Institutions with very new programs or those considered elite were left out so that the results would not be skewed toward either extreme. The publicly available education plans listed the course titles, classifications, and contact hours, covering a total of 157 courses and 8,908 hours (Institution A: 89 courses, 4,811 hours; Institution B: 68 courses, 4,097 hours).

The course data were then imported into NVivo for systematic classification. Each course was placed into one of five categories: Creative (e.g., character design, storytelling), Skill (e.g., digital painting, illustration), Supporting (e.g., video editing, web design), Practice (e.g., internships, project work), and Unrelated (e.g., general education). After coding, percentages of courses and contact hours were calculated to show how emphasis and resources were distributed across these categories.

Gap Analysis

The gap analysis compared the percentage of industry needs with the proportion of courses in the corresponding curriculum categories (Creative, Skill, Supporting). Differences were then calculated, with positive values indicating undersupply and negative values indicating oversupply. Because interviews did not identify Practice or Unrelated as industry requirements, these two categories were assigned a value of 0 percent. The results were ranked according to the size of the gaps, and this ordering highlighted the most pressing issues. For instance, one of the most notable findings was the shortage of creative training. The addition of this quantitative layer complemented the qualitative results and provided a stronger foundation for the study's recommendations.

Results

This study examines how well Chinese higher education comic curricula align with the expectations of the comics industry. The analysis provides a detailed view of both areas of agreement and points of divergence. Using a systematic gap analysis, data from expert interviews and curriculum reviews were brought together to identify recurring patterns in industry priorities and academic provision.

The findings point to notable mismatches that affect the readiness of graduates for professional roles. Creative and technical skills emerged as particular areas of concern, since both are central to industry success. By comparing the competencies emphasized by industry professionals with the structure of university programs, the study also sheds light on how teaching resources are allocated and where adjustments may be needed.

For clarity, the results are presented in three subsections. The first outlines the competencies valued by industry experts. The second examines the distribution and focus of courses in university curricula. The third quantifies the gaps between professional expectations and what is currently provided in higher education. Together, these findings establish a foundation for targeted recommendations to strengthen the relevance of comics education in China and to support both academic development and industry growth.

Industry Needs

The interview data produced three main categories of professional requirements (Table 2). Creative needs were the most prominent, accounting for 60.59 percent. This category included abilities such as developing original story concepts, designing characters, and guiding narrative direction. These skills were described as essential for distinguishing content in an increasingly crowded market. Several experts stressed that without strong creative capacity, comics are unlikely to capture readers' interest or leave a lasting impression.

Skill needs represented 31.76 percent of the responses and referred to technical proficiencies, including line drawing, colouring, background illustration, and the use of relevant software. These competencies were considered crucial for ensuring efficient production.

Supporting needs formed the smallest share at 7.65 percent. This category involved auxiliary aspects such as project management, editing, and market awareness. While acknowledged as useful, these skills were generally regarded as complementary rather than central to professional success.

Table 2: Coding Results on Industry Needs

Category	Node	References	Percentage
Creative	4	103	60.59%
Skill	3	54	31.76%
Supporting	3	13	7.65%
Total	10	170	100%

Taken together, the findings highlight the industry's emphasis on creativity and technical execution, while supportive skills are seen as playing a secondary role.

Curricula Status

The analysis of curricula (Table 3) reveals a varied yet uneven distribution of courses and contact hours. Creative courses, regarded by industry experts as essential, made up only 13.38 percent of all courses and 12.71 percent of total hours. This category included subjects such as creative writing and artistic expression. The limited share of these courses suggests that the area most valued by professionals has not been given sufficient emphasis.

Skill courses accounted for 15.92 percent of courses and 16.08 percent of hours. These courses typically addressed foundational topics such as sketching and perspective. However, coverage of advanced digital techniques was relatively limited.

Supporting courses were more prominent, representing 26.75 percent of courses and 20.97 percent of hours. This group included subjects such as 3D animation and photography, which are useful in some contexts but not directly aligned with the core needs of the comics industry. Practice courses, designed to provide hands-on training through studio sessions and internships, dominated in terms of contact hours at 30.61 percent. While this indicates a clear emphasis on practice, the activities were not always connected to specific requirements identified by industry experts.

Unrelated courses, including mandatory general education, comprised 28.03 percent of courses and 19.63 percent of hours. These fulfil national higher education policy requirements but also reduce the overall space available for specialized training in comics.

Table 3: Coding Results on Curriculum

Category	Courses	Percentage Of Courses	Contact hours	Percentage of Contact Hours
Creative	21	13.38%	1132	12.71%
Skill	25	15.92%	1432	16.08%
Supporting	42	26.75%	1868	20.97%
Practice	25	15.92%	2727	30.61%
Unrelated	44	28.03%	1749	19.63%
Total	157	100%	8908	100%

Taken together, the curriculum structure appears broad in scope but lacks a clear focus on the priorities emphasized by the industry.

Gap Analysis

This section presents a structured comparison of industry requirements and university curricula in order to reveal the existing gaps (Table 4). Both sets of data were organized into five categories: Creative, Skill, Supporting, Practice, and Unrelated. The share of courses and contact hours in each category was then calculated to allow for proportional comparison. The analysis highlights whether each category is oversupplied or undersupplied, offering a clearer picture of where higher education in comics diverges from the expectations of the industry.

Table 4: Gap Between Industry Needs and Curriculum

Category	Industry needs	Percentage of Courses	Courses gap	Percentage of Contact Hours	Contact hours gap
Creative	60.59%	13.38%	47.21%	12.71%	47.88%
Skill	31.76%	15.92%	15.84%	16.08%	15.68%
Supporting	7.65%	26.75%	-19.1%	20.97%	13.32%
Practice	0%	15.92%	-15.92%	30.61%	-30.61%
Unrelated	0%	28.03%	-28.03%	19.63%	-19.63%

Discussion

The findings of this study highlight systemic shortcomings in Chinese comics education that warrant attention. The 47.88% creativity gap is particularly concerning, as it undermines the industry's core demand for original creation. While industry experts emphasize that creativity is the core skill in comics creation, curricula focus on areas such as story development and concept design (Guixiu et al., 2022; Xiaoye & Xianna, 2021). This imbalance may explain why many graduates tend to create illustration rather than creative narrative, as comics are often crudely perceived as just a series of beautiful illustrated panels (Knapp et al., 2014). One way

forward is for universities to adopt more market-based project models, requiring students to produce full comic book series under the guidance of industry educators.

The skills gap is smaller, at 15.68%, but it remains a problem. While proficiency in skills like digital colouring and background painting is crucial for productivity, current courses often focus on software operation (Sijie, 2021; Xiang, 2020). As a result, graduates are often unprepared for fast-paced professional environments where both speed and quality are expected. At the same time, the oversupply of supporting courses, measured at 13.32 percent, indicates that the curriculum gives too much space to peripheral subjects like database management and photography. While these subjects have value in broader creative contexts, they do not directly advance the skills most relevant to comics production.

Practice courses account for an oversupply of 30.61 percent. Although these courses emphasize practical engagement, they often lack clear industry integration. Many take the form of general internships that are not specifically related to comics (Qiu et al., 2025). Similarly, unrelated courses, which occupy 19.63 percent, reflect policy requirements for general education. These are important for broad intellectual development but reduce the degree of specialization in a field that requires concentrated creative practice. This situation reflects wider patterns in Chinese higher education, where standardized requirements may limit opportunities for discipline-specific innovation (Zhou, 2024). In contrast, international models such as those in Japan integrate creative and technical elements more effectively, placing stronger emphasis on portfolio development and collaboration with industry partners (Hatfield & Beaty, 2020; Jourdan, 2021).

It is important to acknowledge the limitations of this study. The sample is relatively small, consisting of only two universities and six experts, which may not capture the diversity of programs across the country. Future work could expand the scope by including additional institutions, gathering student perspectives, and using quantitative measures such as graduate employment outcomes. Further research into emerging trends, such as digital comics and web-based platforms, could also provide useful insights.

The implications of these findings are relevant for both policy and practice. Policymakers might consider introducing incentives that encourage closer collaboration between universities and the comics industry, while educators could experiment with revised curricula that allocate greater emphasis to creative training. Addressing the gaps identified in this study would not only improve graduate employability but also enhance China's potential to become a global leader in comics.

Conclusion

This study identifies significant gaps in Chinese comics curricula. Creative and skill-based courses are notably undersupplied, falling short by 47.88 percent and 15.68 percent of contact hours compared to industry expectations. In contrast, supporting, practice, and unrelated courses are oversupplied, suggesting that teaching resources are not being prioritized effectively. Such imbalances reduce graduates' readiness for professional roles and reinforce the concerns raised in previous research on misalignment in creative education.

Addressing these gaps requires a strategic reallocation of resources. Universities could expand creative training by introducing more courses in storytelling and character design, with an increase of 20 to 30 percent in instructional hours. Skill development would benefit from advanced digital modules, ideally supported by partnerships with software companies that can provide both tools and expertise. Practice courses should also be redesigned to ensure closer alignment with industry needs, for example through mandatory internships focused on comics production. Where regulations allow, reducing the proportion of unrelated courses will free up space for more creative courses. These reforms could be implemented in phases, starting with pilot projects and evaluated through subsequent gap analyses.

A curriculum that is more in line with industry needs will enhance the supply of innovative talents, promote the high-quality development of the comics industry, and promote China's economic prosperity in the cultural and creative industries. A thriving market can also accelerate the development of original intellectual property, making China more internationally competitive. Future research might compare educational differences between China and other regions such as Japan, South Korea, or Europe, track the career development of graduates, or explore the role of emerging technologies such as artificial intelligence in the field of comics. Finally, these insights call for educators, policymakers, and industry partners to work together to reshape the comics curriculum system, increase investment in courses that focus on creative skills, strengthen technical training related to the comics industry, and reduce the proportion of irrelevant courses, so that Chinese comics education can meet the needs of the rapidly developing industry.

Acknowledgement

The authors would like to express sincere gratitude to the Faculty of Art and Design, Universiti Teknologi MARA, for the generous support of this study.

References

- Ahn, H., Clermont, M., & Höfer-Diehl, Y. (2017). Performance evaluation of teaching in higher education: a gap model and its application. *International Journal of Public Sector Performance Management*, 3(2), 119-147. doi:10.1504/IJPSPM.2017.084671
- Asare, S., Walden, P., Aniagyei, E., & Emmanuel, M. (2023). A Comparative Study of Traditional Art Techniques versus Digital Art Techniques in the Context of College Visual Art Education. *American Journal of Arts, Social and Humanity Studies*, 3, 21-34. doi:10.47672/ajashs.1556
- Bridgstock, R. (2019). Chapter 7: Creative industries and higher education: what curriculum, what evidence, what impact? A Research Agenda for Creative Industries. In. Cheltenham, UK: Edward Elgar Publishing.
- China, M. o. E. o. (2024). *Notice of the Ministry of Education on the Announcement of the Registration and Approval Results of Undergraduate Majors in Regular Higher Education Institutions in 2023*. China Retrieved from http://www.moe.gov.cn/srcsite/A08/moe_1034/s4930/202403/t20240319_1121111.html
- Crimmins, G., Lipton, B., McIntyre, J., de Villiers Scheepers, M., & English, P. (2023). Creative industries curriculum design for living and leading amid uncertainty. In *Educational Leadership and Policy in a Time of Precarity* (1st Edition ed., pp. 20-36): Routledge.

- Fater, K. H. (2013). Gap Analysis: A Method to Assess Core Competency Development in the Curriculum. *Nursing Education Perspectives*, 34(2).
- Guixiu, L., Xiaozhe, G., & Xuejiao, C. (2022). Research on the teaching reform model of cartoon major core courses under the perspective of new liberal arts. *Education and Learning*. doi:http://dx.doi.org/10.12361/2705-0416-04-12-90256
- Hatfield, C., & Beaty, B. (2020). *Comics studies: A guidebook*: Rutgers University Press.
- Hrnciar, M., & Madzák, P. J. H. e. s. (2013). Improving the Quality of Higher Education in Central Europe: Approach Based on GAP Analysis. *Higher Education Studies*, 3(4), 75-88.
- Hu, B., & Li, Y. (2025). The role of digital drawing software in enhancing specific artistic skills and behavioral intentions in art education. *Cogent Education*, 12(1), 2481679. doi:10.1080/2331186X.2025.2481679
- Jennings, M. D. (2000). Gap analysis: concepts, methods, and recent results*. *Landscape Ecology*, 15(1), 5-20. doi:10.1023/A:1008184408300
- Jourdan, J. (2021). *Research on the Development Potential of Chinese Webcomic Platforms : The Transformation of the Comic Format and Overseas Expansion*. The Ohio State University,
- Kim, S., & Ji, Y. (2018). Gap analysis. *The international encyclopedia of strategic communication*, 8, 1-6.
- Knapp, A.-K., Hennig-Thurau, T., & Mathys, J. (2014). The importance of reciprocal spillover effects for the valuation of bestseller brands: introducing and testing a contingency model. *Journal of the Academy of Marketing Science*, 42, 205-221.
- Olo, D., Correia, L., & Rego, C. (2021). How to develop higher education curricula towards employability? A multi-stakeholder approach. *Education + Training*, 64(1), 89-106. doi:10.1108/ET-10-2020-0329
- Qiu, Y., Lu, W., Guo, X., & Yen, T. (2025). Cultivation of Innovative Marketing Talents in Universities under the New Quality Productivity: A Review. *Asian Journal of Education and Social Studies*, 51(1), 253-261. doi:10.9734/ajess/2025/v51i11744
- Sijie, C. (2021). An analysis of the current status of comics courses in colleges and universities in my country and the future improvement plan of the courses.
- Whitten, S. (2021). The 13 highest-grossing film franchises at the box office. *CNBC*.
- Xiang, C. (2020). Research on the Construction of Chinese Undergraduate Comic Major. *International Journal of Learning and Teaching*, 257-261.
- Xiaoye, Z., & Xianna, L. (2021). Research on the cultivation of creative talents in comic majors under the background of innovation and entrepreneurship. *Time-honored brand marketing*(07), 131-132.
- Zhou, Y. (2024). Untangling “Chinese characteristics”: an examination of “the China Discipline Evaluation with Chinese characteristics” and what it implies. *Higher Education*, 88(3), 1019-1035. doi:10.1007/s10734-023-01157-y