

# Digital Archive Use in Physical Education and Sports Culture

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## Abstract

Sports and physical education have flourished in Taiwan, with many splendid achievements over the years. However, the lack of an appropriate preservation method has resulted in dispersal of the relevant artifacts into private possession. This study conducted a literature review and in-depth interviews aimed at digitalizing archives of these valuable artifacts from critical figures in sports and physical education. These digital archives are contained in multimedia formats in a digital database, which was successively developed both online and offline to demonstrate the diversity of sports culture. The digitalization and online communication of the memory and spirit of Taiwanese physical education culture, and the incorporation of these cultural assets in daily life to foster a cultural memory inheritance constituted the main objective of this study.

**Keywords:** sports culture, digital archive, Taiwanese physical education, digital asset, memory inheritance

## Format Specifications

### I. Research Background

Since the coming of the digital age, countries worldwide have been developing digital archives for cultural relic preservation and value-added applications. Taiwan has also spared no efforts in developing its own digital archives. In addition to cultural relics and books, sports culture is another key element of Taiwan's digital archive project. This is a governmental project implemented by the Sports Administration, Ministry of Education of Taiwan. Since the planning of the digital museum of cultural relics by the Sports Administration in 2009, efforts have been made to digitize the historic achievements of Taiwanese sports and preserve more of Taiwan's classical cultural relics. Phase I of the Sports Digital Archive Project was launched in 2017, with 20 outstanding sports figures interviewed and 100 cultural relics digitized. Phase II of the project was launched in 2018, covering a total of 2,927 cultural relics and interviews with 25 outstanding sports figures. Metadata of the archive were also created during Phase II. Being intricately linked with governmental policies and implemented in a time of increasing popularity of sports, the project collected sports-related archival literature and cultural relics and had them digitized in audio and video media, thereby establishing a digital archival literature database. With the achievements presented on network platforms and physical exhibitions, the project presented the sporting spirit to the general public, integrated the databases of the sports industry on the basis of pluralistic thinking, and created more sports learning resources. Nowadays, sports mean more than competition: sports are a means of relaxation and a part of our lifestyle. The digitized contents and multimedia literature data of the project can not only help citizens to understand the history of local folk sports better but also facilitate the diversification of sports activities in Taiwan. Figure 1 shows the contents compiled under the digital archive project.

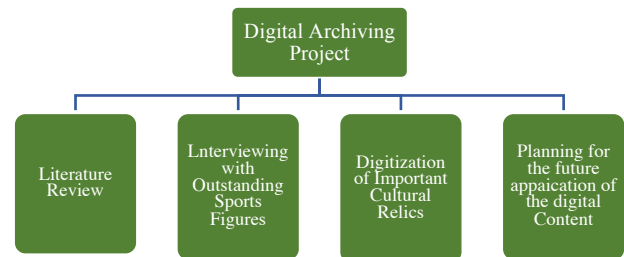


Fig. 1. Contents compiled under the sports archive project

### II. Research Methods

To understand the current status of Taiwanese sports culture, in particular the local traditional sports culture, this study conducted an in-depth interview of the figures and cultural relics in Taiwanese sports culture through content analysis, field research, and expert interview. In addition, a wide range of texts, images, videos, and audios were digitized for the purposes of cultural preservation, inheritance, communication, and education.

#### (I) Content analysis and field research

1. Inventory check and licensing of cultural relics (government organs, organizations, individual sport association, and individuals): The inventories of cultural relics at various sites were examined, with the detailed contents of relevant cultural relics collected and copyright ownership and content licensing clarified. This inventory check facilitated the subsequent digitization of cultural relics. The following organizations provided support during p's cultural relic collection and sports figure identification: National Taiwan Sport University, National Taiwan University of Sport, Taiwan Baseball Hall of Fame, Xiao-ba-wang Ping Pong World, Wu Wen-da Sports Foundation, The Golf Association of the Republic of China, Taiwanese Golf History Museum, Sunrise Golf & Country Club, Chinese Taipei Modern Pentathlon & Biathlon Association, National Sports Training Center, and Chinese Taipei Baseball Association. The project has five priority sports categories on its agenda and will gradually cover other categories in the future through cooperation with those concerned. Figure 2 shows the working agenda of the Sports Digital Archive Project.



Fig. 2. Working Agenda of the Sports Digital Archive Project

1) School sports

School sports are a component of education and an important area of national sports development. Sports have an educational function in that the vigorous muscular exercises of sports benefit the healthy and comprehensive physical and psychological development of the practitioners and improve the practitioners' health, comfort, sports skills, life quality, and social adaptability, thereby providing a basis for the practitioners' pursuits in other areas of learning. School sports include general sports and competitive sports. "General sports" refers to physical education courses set up according to the Health and Physical Education Outline (in the curriculum outline for grades one through nine), the senior high school physical education outline, and those set up at universities. Competitive school sports are developed according to the Citizen Physical Education Law and the physical education policies of county- and city-level schools.

2) Social sports

"Social sports" refers to body exercise—centered activities in social communities. Social sports perform a function of mass education. Social sports—without limitations in gender, age, location, time, and form—should be developed according to the specific situations and needs of social communities and should utilize social environmental resources and human resources for development. Social sports development targets families, neighborhoods, communities, factories, government organs, and cities. Appropriate forms of social sports include leisure activities, health care, performance, and competition. Social sports have the potential functions of organizing the society and citizens, inspiring the morale and support of the people, improving the spirit of solidarity, and coping with potential risks. Thus, social sports serve as a basis of national sports development.

3) Sports competitions

The composition and records of sports competition reflect the vigor and strength of national sports development. "Sports association management" refers to the planning and coordination of sports associations and the evaluation of any sports-related competition events, such as intra- and inter-school sports competitions, community sports competitions, and amateur and professional league competitions. Sports meetings for celebrating school anniversaries—though a type of intra-school sports competition—fall within the scope of sports competition management. To maximize their effect, such sports meetings should be planned and managed using the method of sports association management.

4) Olympics

The Olympics are the foremost international multi-sport competition and are governed by the International Olympic Committee. With the creation of the Winter Olympic Games, the Olympics are also referred to as the Summer Olympic Games. Held every four years (with two years between the Summer and Winter Games), the Olympics have become a symbol of world peace and friendship; have promoted the development of human society in the direction of the true, the good, and the beautiful; have served to bridge the gaps between peoples of different countries; have contributed to better mutual understanding between different ethnic groups and cultures; have promoted world peace; have reduced the likelihood of wars; and have satisfied the needs of modern international society to a certain degree. The Olympics have direct practical implications for modern human beings and have become an important element of the cause of world peace, thereby

establishing their important role in international society.

5) Traditional sports

Traditional sports are cultural habits of physical exercises, gradually created, formed, and inherited collectively by a particular ethnic group in their communities. Traditional sports are collectively enjoyed by a particular ethnic group. In the case of Taiwan, traditional sports include sports of the aboriginal Taiwanese, folk sports, and traditional martial arts. Cultural relics were compiled by the five sports categories in a rigorous and prudent manner. The Sports Administration will establish a working group for each sports category. The working groups will check the details of the cultural relics, review the scope of cultural relic digitization, and define the priority of cultural relic digitization according to the type and preservation condition of the cultural relics. A systematic standard procedure has to be established for sorting the massive number of cultural relics. Only with the establishment of a well-developed system and a systematic standard procedure for the collection of cultural relics can efficient management and utilization of cultural relics be realized.

2. Collection and digitization of authorized cultural relics:

A total of 2,927 cultural relics were collected for the Sports Digital Archive Project and were classified into the following categories: old photos (371), Promotional materials (flyer/brochure) (234), books and documents (370), medals (76), Relics (1,854), Balls (11), and miscellaneous (11). The collected cultural relics were sorted and digitized using digital archive techniques. Table 1 shows a list of the digitized cultural relics.

**Table 1.** List of digitized cultural relics

| Category                                  | Quantity<br>(Unit: piece) | Copyright<br>owner                            |
|---|---------------------------|---|
| Old photos                                | 371                       | 1. National<br>Sports<br>Training<br>Center   |
| Promotional materials<br>(flyer/brochure) | 234                       |   |
| Books and documents                       | 370                       |   |
| Medals                                    | 76                        | 2. Taiwan<br>Baseball<br>Hall of<br>Fame      |
| Relics                                    | 1,854                     |   |
| Balls                                     | 11                        |   |
| Miscellaneous                             | 11                        | 3. Chinese<br>Taipei<br>Olympics<br>Committee |
| Total                                     | 2,927                     |   |

3. Creation and sorting of the metadata of the digitized cultural relics: The digitized cultural relics were cataloged, with metadata created by recruited experts. The data were then used to revise and expand the Sports Cultural Relics Digital Museum website of the Sports Administration. The data—publicly available on the website—can be used as professional cultural education materials for future educational and academic endeavors.

### III. Expert consultation

1. Identification and authorization of sports figures: Potential sports figures covered by the project were identified, and their relevant information—such as name, sports category, major achievements, birthday/age, health condition, oral expression, and contact information—was collected. Then, sports figures deemed worthy of an interview were identified and prioritized. This archival information can be utilized in the future through various information technologies and value-added applications. On the one hand, this step serves to preserve Taiwanese sports culture; moreover, the information can be used in other commercial applications. For example, it can be made into instructional materials for communities and schools. It can thereby bring more widely diversified benefits. Figure 3 shows the process flow for the interviewing of sports figures.

2. Digitization of sports figures interviews: After the preparatory work of identifying and evaluating sports figures to be covered in the project, interviews were arranged with those figures deemed appropriate for an interview. Topics of the interviews were designed according to the characteristics of the interviewees. Video and audio interviews were conducted according to data sheets and outlines prepared for the interviews. The interview audios and videos were edited, and the contents

of the interviews were sorted and analyzed.

3. Editing and post-production of video interviews with sports figures: Interview videos were edited and posted on the Sports Cultural Digital Museum website of Sports Administration for publicity. These videos serve to preserve the contemporary sports culture and will be used for the digital database to be established by the Sports Administration in the future.

### IV. Research Results and Findings

The study identified the following three major outcomes with Taiwanese sports culture through content analysis, field research, and expert consultation.

#### (I) Research results

1. Website establishment and metadata creation:

After completing pre-production operations (such as shooting video interviews with sports figures, digitizing cultural relics, and creating metadata) and post-production operations (such as creating the Sports Culture Digital Archive website), the working team publicized the achievements of the project. The website includes the following five pages according to the contents of the Sports Culture Digital Archive Project of the Sports Administration: school sports, social sports, traditional sports, Olympics, and sports competitions. Figure 4 shows the structure of the Sports Culture Digital Archive website.

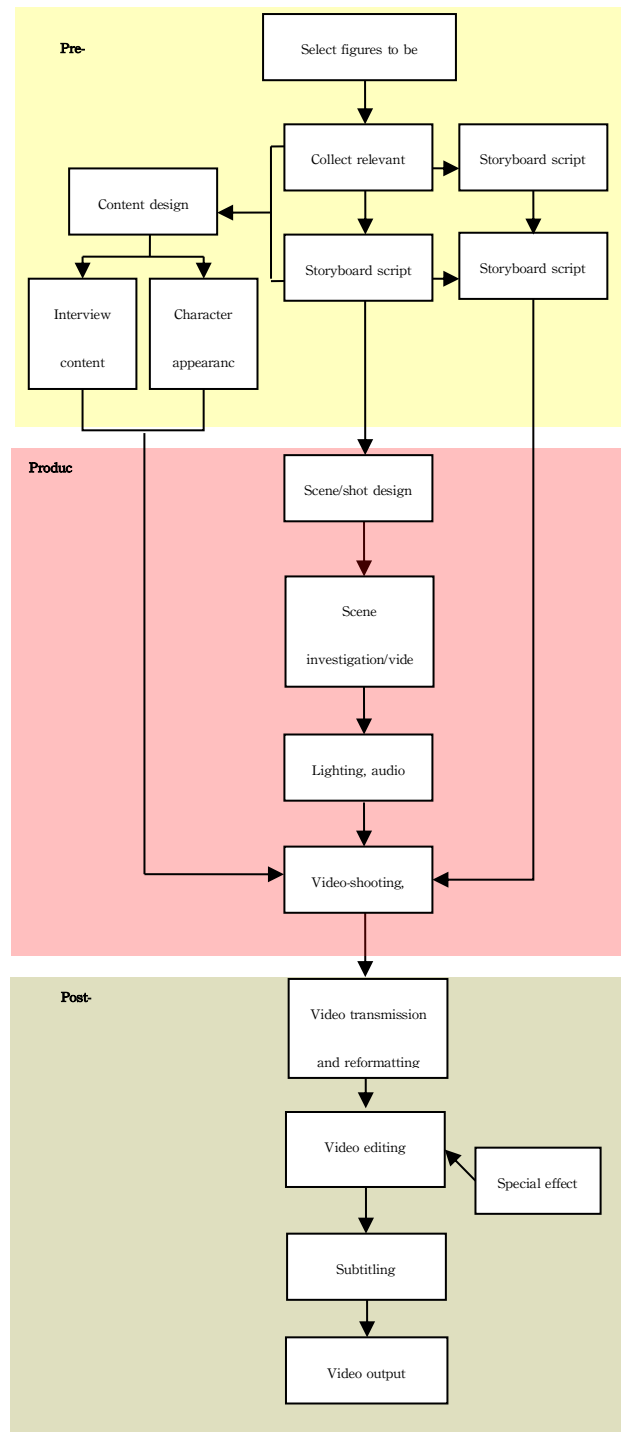


Fig. 3. Process flow for digitizing interviews with sports figures



Fig. 4. Structure of the Sports Culture Digital Archive website

2. Mascot design: To make the project more interesting and interactive, and to facilitate future value-added applications of the project, the project designed a mascot for each of the five sport categories, based on unique animals from Taiwan and the characteristics of the five sport categories: a gem-faced civet for school sports, a macaque for social sports, a pangolin for traditional sports, a water buffalo for Olympics, and a clouded leopard for sports competitions. The design of the mascots is detailed below, with the designs presented in Figure 5.

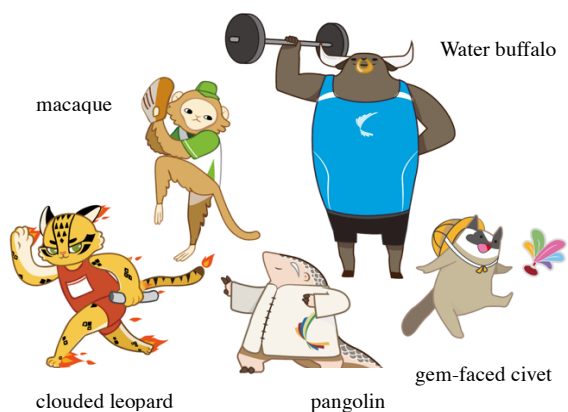


Fig. 5. Mascots designed for sports culture categories

A. Social sports: macaque

The arboreal macaque was designed as wearing a predominantly green costume. Because this animal is lively in nature, agile in action, and has a habit of throwing things, it was designed in a posture of playing baseball, a popular sport among Taiwanese.

B. Olympics: water buffalo

The water buffalo—which enjoys water and soil and tills the fields—was designed wearing a blue-black costume. Because the animal has great strength and was used for carrying heavy weights during Taiwan's agricultural age, it was designed in a posture of weight-lifting, one of the popular Olympic games in Taiwan.

speed. Because the Taiwanese clouded leopard is strong, vigorous, and fast-moving, it was designed in the posture of playing athletics, a popular event at sports competitions.

D. Traditional sports: pangolin

Because the rare pangolin has bright silver scales, it was designed wearing a white costume. Because it behaves like industrious and hard-working people and looks like a Taiji symbol when curling up into a ball for defensive purposes, the designed was modeled on the image of martial arts practitioners.

E. School sports: gem-faced civet

The gem-faced civet was designed wearing a yellow round cap, an extremely popular form of headwear among primary school students in Taiwan. As this small animal is good at preying on small birds, it was designed in the posture of shuttlecock kicking, a popular sport on campus.

3. Production of short video interviews with sports figures: The project identified important sports figures to be interviewed, drafted topics for the interviews, a professional team to shoot interview videos, and edited the videos. The project interviewed 20 sports figures in Phase I and 25 in Phase II. The interview videos were publicized on the Sports Culture Digital Archive website for citizens to help them acquire a better understanding of the historic development of sports and folk skills in Taiwan. The videos can serve as both teaching and entertainment materials.

4. Promotion of sports culture: The project promotes sports culture to the general public by posting articles and engaging in interaction activities on the social media of the website.

5. Determining the category and direction of future digitization: The implementation of this project involves a long-term plan. The plan is to implement projects year by years and to create digital archives for other sports categories while focusing on the following five core objectives: digital archive, public access, cultural inheritance, academic research, and future value-added applications. The budgeting and future year-

by-year implementation can be modeled on the basis of this project. Figure 6 shows the five core objectives of the Sports Digital Archive Project.



Fig. 6. Five core objectives of the Sports Digital Archive Project

## (II) Research findings

1. Gap in sports talent cultivation: Athlete education and training in Taiwan now focus on results and performance, with an inadequate development of non-sports-related knowledge and competency, an inadequate overall investment in research in sports sciences, and a lack of sound sports competition planning and health maintenance. To be a good athlete requires not only natural talents but also comprehensive career planning and talent development mechanisms. The absence of long-term planning will lead to talent shortages, thereby impacting the inheritance of relevant skills and sports culture.
2. Difficulty in sports culture maintenance and preservation: Sports are more than competition and body-building activities; sports also have historic and cultural aspects. Besides the sports familiar to the general public, there are many local traditional folk skills and sports, which are being gradually forgotten by ordinary people owing to difficulties in inheritance and changing lifestyles. This results in the poor preservation, damage to relevant cultural relics and historic data, and a poor appreciation of the relevant skills of old-generation masters. This in turn results in difficulties retaining the continuity of Taiwanese sports culture and the risk of losing folk skills.
3. Some outstanding sports figures are not treasured: It was a bit difficult for some outstanding sports figures to complete the interviews owing to elderliness or poor health conditions. For example, some elderly figures had difficulty with mobility or were bedridden and needed the assistance of third-party family members to finish the video shoot and interview. This reflects the risk of cultural discontinuity and the urgency of digitizing document contents, archive figures, and cultural relics.
4. Content sources of the future sports industry: The digital contents of the project include figures and cultural relics of sports culture. These data could be provided to the Taiwanese sports community to develop the relevant industries.

## V. Conclusions

In relation to inheriting the skills and spirit of Taiwanese sports culture and improving the sports culture awareness of the general public, the digital archiving of important sport figures, cultural relics, and documents is the first step toward preservation and inheritance. Activating, publicizing, and promoting the digital contents will help the younger generations understand their history and the cultural implications. Supplemented by the value-added application of the digital contents and the design of sports culture mascots, promoting sports culture through innovative and interesting means can raise cultural spirits and create commercial values.

### (I) Establishing the Sports Culture Digital Archive website

A website was created to publicize the digitized contents. This will help the general public to gain a better understanding of the developmental history of sports culture. The contents of the website include cultural relics, records, and short video interviews with outstanding sports figures classified under five categories—traditional sports, social sports, Olympics, sports competitions, and school sports.

### (II) Presentation of video interviews with sports figures

The contents of the interviews with sports figures were sorted, edited, and posted on the Sports Culture Digital Archive website for public access.

### (III) Design and value-added application of mascots

Mascots were designed on the basis of the characteristic appearances of unique animals from Taiwan, namely, the pangolin, macaque, water buffalo, clouded leopard, and gem-faced civet. In addition to being displayed on the website, the mascots have been developed for value-added applications, with souvenirs and cultural creative products to be developed.

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## Author Biography

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