

# Social Networks for the Next Media Literacy

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## 1. Introduction

### Shin Mizukoshi

This collection of papers is based on the report of the international seminar of the Grant-in-Aid for Scientific Research "The New Literacy for Media Infrastructure" project, which Shin Mizukoshi led for three years, starting in 2018. The content is based on the international seminar "Social Networks for the Next Media Literacy" report.

In the following articles, we first outline the aims and results of this research project. The

essays will then be presented in the following order, according to their country of origin: Belgium, Korea, and Japan. Following the submission rules of the Bulletin, this is formally a single co-authored paper; however, in effect, this is a collection of three articles. Each article is the responsibility of a different author from each of the mentioned countries. There was a question-and-answer session at the international seminar, but we will not go into that.

### 1.1 The aims of The New Literacy for Media Infrastructure Project

This research project aimed to develop a new theory and a learning program to foster media literacy (ML) and a critical understanding of media infrastructures (from social networking services [SNSs], such as Twitter, to search engines, such as Google) as well as information and communication infrastructures, such as the Internet. First, the project examined media

infrastructure, not only from a technological but also from cultural and social perspectives. Subsequently, it aimed to develop a new theory and learning program to foster ML.

Traditionally, ML has been developed as the art and science of critically reading and interpreting content (e.g., TV programs and SNS messages). However, in recent years, it has

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**Key Words** : Media Literacy, Algorithm, Media Art, Digital Media, Interdisciplinarity, Media Ecosystem

become clear that, unlike television, SNS messages are inseparable from the infrastructure that supports them. Moreover, the characteristics of this infrastructure define and cause various communication phenomena. In other words, in the media environment of the mid-2010s and beyond, it is not enough to tackle media content-related ML. Instead, it is necessary to develop media infrastructure-related ML and take it into account comprehensively

## 1.2 Outline of the study

### 1.2.1 Research methodology

Theoretical research and development of learning programs were carried out simultaneously. As for theoretical research, we traced the research trends in media theory, which have changed drastically in recent years; subsequently, we determined the ideal ML theory derived from them. We also surveyed foreign literature on software studies, platform capitalism, platform cooperativism, and ML-related academic societies in Japan and abroad.

### 1.2.2 Research contributions

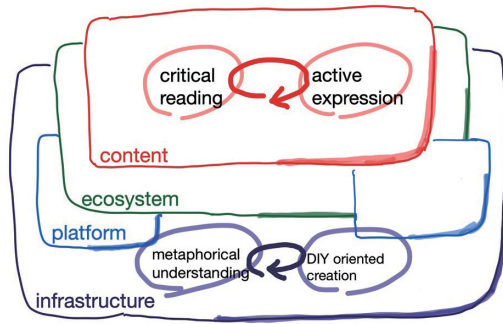
Shin Mizukoshi was in charge of the entire project. Atsushi Udagawa, Masahiro Katsuno, and Setsuko Kamiya (doctoral students at that time) acted as secretaries. Hajime Hasegawa (Professor of Meiji Gakuin University) participated in the theoretical research and Mami Komaya (Professor of Jissen Women's University) in

with ML of conventional content.

Therefore, this research project created a theoretical framework for media infrastructure-related ML and developed a learning program. An interdisciplinary group of scholars from the fields of media theory, pedagogy, information design worked together in an international network in collaboration with the ICT industry and cooperatives.

The development study involved the design, implementation, evaluation, and analysis of four types of workshops (WS) learning programs according to the time required and the depth of the activities (the four types of WS model). The purpose of the WS was to "defamiliarize" this situation and give people the opportunity to critically consider media infrastructures in everyday life from a different perspective.

development research. In addition, Osamu Nakano (Japan Co-operative Alliance and Japan Workers' Co-operative Union) supported the social engagement activities, while David Buckingham (UK), Trevor Scholz (USA), Hyeon-Seon Jeong (Korea), and Jerry Jacques (Belgium) kindly collaborated internationally.



[Figure 1.1] Sketch of the new literacy for media infrastructure (Mizukoshi, 2020)

### 1.3 Research results

In our theoretical research, we developed a model of what constitutes infrastructural literacy and then synthesized a model with traditional media content-related ML (Figure 1). In the end, the model was connected with a media biotope concept in which people collaborate with others in their homes, communities, schools, workplaces, and online communities. People can become more resilient and secure their own identities and communities by engaging with the media biotope with a do-it-yourself mentality. These findings have been presented and

published in various conferences and journals.

In the development research, we provided "Four Types of WS Model." According to it, four "Type 1," two "Type 2," and one "Type 3" WS were developed, evaluated, analyzed, presented, and published. The design of "Type 4" will continue in the future.

In connection with this, we have held four international research meetings, given presentations to the government, industry, and local authorities, and published information on our blog (A New Literacy for Media Infrastructure).

### 1.4 The purpose and outline of the international seminar

Once again, this collection of papers is a revised version of the three papers presented at the international seminar "Social Networks for the Next Media Literacy." This seminar was held in a virtual format via Zoom on Saturday, 27 February 2021, from 4:00 pm to 7:30 pm (Japan time). A total of 57 people participated. A

video recording of the seminar can be found on the project website (Ibid.).

Research teams from Belgium and Korea attended the seminars. Both are among the few groups that are trying to conduct extensive research on literacy education on digital technologies and simultaneously develop these activi-

ties in a community with diverse members. Mizukoshi et al. were in contact with both teams throughout the research project.

Mizukoshi gave an overview of the project, followed by reports from Belgium, Korea, and Japan, in that order. Afterward, Yuko Tsuchiya (Hiroshima Keizai University) was the discussant, followed by a question-and-answer session. Finally, Hasegawa provided a closing address.

Udagawa and Katsuno provided technical support.

**Reference:**

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**Website:**

A New Literacy for Media Infrastructure  
<https://infra.mediabiotope.com>

## 2. Bridging Research, Practice and Scientific Disciplines: the « In the Shoes of an Algorithm » Media Education Project

**Jerry Jacques, Maxime Verbesselt**

This chapter provides an overview of the "In the Shoes of an Algorithm" project which started in Belgium in 2018 with the aim to develop an educational response to the issues raised by recommendation algorithms used in digital media (YouTube, Google, Spotify, Amazon...). This project led to the creation of a pen-and-paper educational game where participants working in teams have to design their own recommendation algorithm and then discuss it with the entire group. This activity, as well as results of the first phase of the design-based

research has been described in Jacques et al. 2020.

The precise aim of this chapter is to describe the geographical and cultural context of this project, its birth, evolution, and the partners involved in its creation with a focus on how the team which is composed of researchers and media educators worked together. By telling the story of the project and the partners involved, the aim is to share some lessons learned that might be useful for future media education initiatives.

### 2.1 A Team of Researchers and Media Educators

In the beginning, the partners involved in the project shared questions about the growing role of recommendation algorithms in the current media landscape. These algorithms raise

questions for media educators who like to emphasize critical analysis and creative production of media in order to develop the media literacy (ML) of users of digital platforms. The

challenges were numerous and many questions were raised: How can we develop a concrete educational response to this issue of recommendation algorithms in digital media? How can we develop a multidisciplinary approach and connect our fields of expertise? How can we tackle such a technical and complex problem with teenagers? The main challenge was to find a way to work meaningfully and effectively in a team combining researchers and practitioners.

The researchers involved in the project were all working at the University of Namur, in the French-speaking part of Belgium. They were all working at the CRIDS, the research center for information, law and society, an interdisciplinary research center gathering scholars working in the fields of law, communication science and philosophy. The rather limited size of the university and the interdisciplinarity of the research center encouraged collaborative projects beyond the frontier of disciplines.

## 2.2 A Shared Context

When looking backwards, there are two main contextual reasons for the birth of this collaboration. First, the partners shared the same geographical environment: the city of Namur where the university and ACMJ are based. Practical aspects of collaboration may sound trivial, but this spatial proximity, on a very basic level, facilitated the launch of the project since the partners knew each other's work before the project started.

The media educators participating in this project were all working for Action Médias Jeunes ("ACMJ"), a non-profit organization composed of 13 workers that offers media education activities in the French-speaking Community of Belgium ("Fédération Wallonie-Bruxelles"). The target audience of ACMJ are young people between ages 3 and 35 with media education activities offered in primary and secondary schools, but also in out-of-school contexts (youth centers, summer camps...). The philosophy of ACMJ is to avoid a top-down "best practices" approach. Instead, educational activities are designed to offer teenagers an opportunity to share and reflect about their own actual media practices. By offering a space to create and discuss media, the aim is to develop their critical reflection. The activities cover many different themes such as the creation of video games, the production of short films or the analysis of digital advertising.

Sharing a geographical context also means sharing a historical context, and in our case, a history related to media education and literacy. Media education is seen in the French Community of Belgium as a way to balance the power of the relations at stake in our media rich world, as a means of empowering media users and communities, and as a lever to promote a civilized use of media, which means using media without manipulating/constraining other people.

This approach is influenced by a history of media education of almost 50 years (De Smedt, 2012; De Smedt & Fastrez, TBP), which started in the 1970s with pioneering media education activities created by school teachers to help and encourage users to be active explorers of their media landscape. These initiatives focused on the construction and deconstruction of movies, TV shows and radio programs that were created in an intuitive and spontaneous way, often without clearly formalized objectives.

In the 1980s, teachers, professionals and researchers inspired by UNESCO (Grünwald declaration, 1982) continued to create media education initiatives, but they were often marginalised from their respective communities and accused of working on objects (media) which were considered illegitimate.

At the end of the 80's, a first structured social network started to appear when La Médiathèque, a multimedia library, created a think tank which launched the first studies and published the first documents on media education. In the 90's - a more structured media education network appeared in the French Community of Belgium in response to a political demand to prove the effects of media education. This led to a first large-scale study on the feasibility of integrating media education in schools and to the foundation of the Council for Media Education which was created to inform political decisions about media education. At that time, a media education network clearly appeared with the creation of

three resource centers to help and train teachers.

During the 2000s, there were many developments in media education research, with a clear focus on the study competences and ML. This period was also characterized by a mover towards greater institutionalization of media education which was integrated in school's curriculum as a "transversal" topic to be addressed in different disciplines. In 2008, the Council became the High Council for Media Education and was reinforced, with clearer objectives and more funding. Its missions are to promote media education and ensure the consistency of the various existing initiatives.

Finally, since the 2010s, there has been a two-fold movement. On the one hand, there is now a common ground between researchers, practitioners, and the High Council for Media Education: a model of competences of ML published by Pierre Fastrez (2010) has been widely adopted as a shared framework which helps to structure the field. A master's degree in media education was also created in French-speaking Community of Belgium.

On the other hand, there are still important challenges for media education in the French Community of Belgium:

- Despite the hub surrounding the High Council, media education is still mostly composed of scattered initiatives. Many calls for proposals and funding opportunities offer subsidies for short-term projects on trending

topics rather than promoting large-scale and long-term programs.

- Media education is not a specific subject in schools and is still considered as a transversal topic which prevents the development of a strong and thorough expertise for the students. It also means that the teachers are not sufficiently trained on issues and pedagogies related to media education and ML.
- There is thus a lack of means, despite the rapid evolution of the media landscape and an

### 2.3 Bridging Education, Research and Scientific Disciplines

Designing a media education activity on a recommendation algorithm was a challenge as it is quite a complex topic. Developing a basic understanding of the computational processes at work in recommendation algorithms requires time and commitment for non-experts. The recommendation algorithms of digital platforms are also protected by trade secrets which means that finding documentation about them is far from being straightforward. Thanks to in-depth research and interviews with experts in computer science, the members of this project managed to develop an understanding of the main operating principles of these recommendation mechanisms as well as of their potential effects on users, their media consumption, and the broader society in general. This work was also possible because of the interdisciplinary expertise of the members of the team, with members working in the field of communication science, media educa-

urgent need to develop ML on a large scale.

This brief history sheds light on the state of ML at the time of starting our project. Media education was considered in the French Community of Belgium as a crucial topic with researchers, teachers and educators highly committed to work on this contemporary issue, although there was a lack of means and remaining difficulties in developing a global and coherent approach without stronger political support.

tion and philosophy of science and technology.

This work required time, but the team members were unable to find any funding at the start of the project. On the research side, funding research projects is very competitive and only a very few numbers of funding instruments are oriented towards applied education and research projects. The project evaluation process also takes time, but it seemed to the team that it was necessary to work on the subject as soon as possible. Action Médias Jeunes is financed by the French Community of Belgium with multi-year subsidies. This funding method has the advantage of allowing the launch of recurrent training activities deployed over the long term. The downside is that these funds lack flexibility when it comes to rapidly developing activities on hot topics. It also forces educators to be mobilized in the field as often as possible, with a very limited time for the research

and development of new teaching materials.

Despite this lack of funding, the team members were able to free-up time to work on the project in early 2018. To do so, the team was inspired by the design-based approach to organize its work (The Design-Based Research Collective, 2003; Wang & Hannafin, 2005). The idea of this approach is to "depart from a problem and then pursue both knowledge and interventions that address it" (McKenney and Reeves, 2013, p.4). The method consists of several iterative steps, with several cycles of inventions and revisions. This approach is particularly suitable for classroom experiments and implies close collaboration between researchers and practitioners. This methodology was a great tool to organize the work together and to clarify the objectives of the different steps. It allowed for the creation of an educational intervention and scientific results at the same time. Several steps of the game were defined:

- the design of the educational activity.
- the use of the activity as a focus group technique to identify key challenges for media education focused on recommendation algorithms.
- the improvement of the game according to the results of the focus groups.
- the analysis of the learning outcomes induced by the activity.
- the fine-tuning of the activity according to analyzed learning outcomes.
- the finalization of the activity to make it

an educational tool that can be shared and used by the broader community of media educators.

- the diffusion of the project on local and international levels.

The main design challenge was to find a balance between the complexity of the algorithmic recommendation principles that the team wanted to include in the activity and the need to create an activity that was suited to teenagers (from fourteen years old and older) in a limited time (100 minutes, which corresponds to the typical time frame for school activities in French speaking Belgium). A first version of the game was tested during approximately one year in different classrooms and with teenagers with different learning curriculum and profiles. During this test phase, the activity was also used as a focus group technique and all the sessions were recorded and then transcribed to analyze the representations and experiences of the participants. The result of this research work was then used to improve the activity. Some gameplay issues were addressed and the final discussion, which is held at the end of each game session, was structured with key questions and issues to be addressed with the teenagers to foster a reflexive stance towards their experience of recommendation algorithms in digital media.

Once the game was stabilized, it was used in different educational contexts (schools, youth



centers, educational trips, universities, lifelong learning activities). Data was collected during these sessions to analyze and document the learning outcomes of the game. At that time, the project was also presented in various seminars and scientific events.

The final step was to transform the activity into an actual educational tool usable by the broader community of media educators. A

#### 2.4 An International Collaboration

Members of the team presented the project at the Media Education Summit held in Hong Kong in 2018. This was a unique opportunity to create an international partnership around the issues raised by recommendation algorithms used by digital platforms. This is when the collaboration with Professor Hyeon-Seon Jeong and Professor Shin Mizukoshi started with the identification of strong connections between research interests. As digital platforms are heavily used in different parts of the world, partners saw the opportunity to launch an international collaboration on education to algorithms used in digital media.

In the following months, our South Korean colleagues developed a version of the game adapted to the South Korean context and the two teams were able to compare the two versions of the game in a paper written altogether (Jacques et al., 2020). It was interesting to note that the engagement of participants was different in the two games:

- in South Korea, the students focused on

dedicated training session was organized, and an instructions manual was created for teachers to learn how to implement the activity in their classes. The challenge here was again to find a balance between comprehensiveness and explanations of a complex subject matter on one hand, and accessibility of the document and training on the other hand.

the importance of engineering decisions and entanglement with social issues.

- in Belgium, the students focused on a more critical assessment of algorithms and the choices made by the digital platforms designing recommender systems.

These differences in engagement were explained by differences in classroom cultures, in the levels of institutionalization of media education in the two countries and by the choices made to conceive the two versions of the games and especially by the need to find a balance between accessibility and adequacy to the recommender systems used by digital platforms. This analysis clearly highlighted the importance generated by different contexts on the media education projects and the effect they produced. This reflection was enriched with contributions of Professor Mizukoshi during seminars organized in Belgium and Japan.

## 2.5 Taking a Step Back

At the end of this project, it seems important to take stock and to identify the strengths and weaknesses of our collaboration to pave the way for future collaborative educational projects focused on current ML issues in the post-covid world.

In terms of strength, the fruitful collaboration between practitioners and researchers, both on local and international levels, is the greatest achievement of this project. From the point of view of Action Médias Jeunes, it made it possible to develop an innovative activity benefiting from scientific expertise on a complex issue. This close collaboration with researchers reduced the time usually needed to document research when tackling a new theme but also to push the reflections further thanks to the pooling of expertise. It also allowed the collection of data regarding the learning outcomes of the activity, which can rarely be done due to lack of resources and time. In the long run, media educators involved in the project developed skills and knowledge which will be useful for other projects. Finally, it was also a unique opportunity for the association to gain international exposure.

Regarding research, the project benefited from field experience of media educators and their in-depth and up-to-date knowledge of young people's media practices and pedagogical preferences. The collaboration with a media education organization also greatly facilitated

the recruitment of participants to the study because the project was able to benefit from a strong existing contact network. This has therefore also greatly facilitated the collection of data. The constraint of proposing an activity that could be used for media education and that would have a practical impact was also a powerful incentive to move forward with this unfunded project. The international collaboration also opened new perspectives with many opportunities to exchange with researchers from all over the world.

Despite these strengths, various difficulties in this collaboration must also be highlighted. As noted above, limited time and funding were the most important obstacles. For example, several versions of the game could have been created for different audiences or instructional videos could have been created to make the game easier to use. Nevertheless, it can be also considered an opportunity to work on a longer project timeline and to avoid the pressure of producing research deliverables. Action Médias Jeunes also needed to carefully communicate about the interest of the project as demands received from schools and other partners did not always correspond to the activities developed by the association. The game has also had a limited diffusion probably due to the complexity of its implementation for the teachers. Another drawback is related to the sustainability of the data proposed to the participants of the game. Music videos

selected in 2018 might quickly become outdated for the teenagers playing the game in the coming years. An approach to solve this problem

## 2.6 Conclusion

This chapter covered some key insights (including its historical context and partners) about the 'In the Shoes of an Algorithm project'. This presentation shows the need to actively build bridges between research and education practices, between disciplines and between local and international initiatives to meaningfully work on the current media education challenges raised by the constantly evolving digital media landscape. Developing these collaborations requires precise planification as well as excellent communication to build a shared vision of the addressed problem and its possible solutions despite the sometimes different interests and work practices of the various partners.

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would be to allow educators to easily update and change the data by themselves.

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### 3. GINUESIUM, Digital Art and Media Literacy: Multi-level Collaborations for Media Arts Education in Local Community

Keumhee Ahn, Chang Geun Oh, Hyeon-Seon Jeong

#### 3.1 Introduction

Since the 2000s, the demand for local museums and art galleries has increased due to the increase in leisure and cultural demands, and the role of museums and art galleries has been expanded into complex cultural spaces that provide education and various experiences for more diverse audiences (Ministry of Culture, Sports and Tourism, 2020, p.644). Not only the roles of exhibitions but also the subjects, contents and methods of education are rapidly changing in museums and art galleries. In addition to programs for the culturally disadvantaged, the change to a complex cultural space is accelerating, such as the use of digital exhibition techniques or exhibitions seeking to fuse performances with other genres.

University museums have a long history of cultural property excavation and its studies (Kim & Kim, 2012). Such a role has now been greatly curtailed by the advent of specialist organizations. Since the roles of the university museum have been changing, university museums should be for the introspection of the new roles. Art museum founded in university, is responsible for research and education for university and community members for increasing accountability of the university seeking the

more active role in any given situation. As is already stated in Museum & Art Museum Promotion Act, the university art museum as an important educational facility, should do not only collecting, researching and exhibiting data needed for research and education of professors and students, but also supporting university curriculum effectively. Also, its role of providing cultural arts educational support has been emphasized. (Museum & Art Museum Promotion Act, 2020).

GINUESIUM is an exhibition space located at Gyeongin National University of Education and it is carrying out challenging practices on the various roles of the university art museum. We will discuss the characteristics of exhibition-linked media education through the process and results of media art exhibition in the university, encourages participation of local residents and students, and examines the importance of enhancing creativity and potential through a convergence education approach. In particular, we would like to discuss the meaning of the integration of university class and an exhibition, and convergence of art and media education in the university art museum through collaboration with artists and professors.

### 3.2 Media Sensibilia, Curation & Realization a Media Art Exhibition in the University Gallery

Digital media were widely applied to important tools not only in the schools but also in art galleries. Media art grew as a huge area where traditional media e.g., paintings, sculptures, printings, and graphics substituted by new equipment as like beam-projectors, monitors, computers, and even loud-speakers. The term of "media art" derived from 'new media art' in the 1970s, but other relevant labels, for instances: cybernetics, kinetic art, video art, electronic art also referred 'new' forms of artworks applied with electronic media. After pioneering TV as artistic canvas by Nam June Paik and his colleagues, new media could extend in art fields officially. However, media art encompassed all the field of arts from fine art and visual design even to performing arts – sound art, media performance and stage plays. In the 1980s, 'digital art' was appeared by artists and graphics engineers attributed to the research on user interfaces and computer graphics. The era of digital media gradually requested to learn computer techniques to artists, and now most artists are working with computers.

Media art had opened an opportunity of direct interaction toward spectators in the exhibition spaces, whereas the traditional gravity ruled keeping silence and spacing from artworks. Traditionally, artworks represented specific stories or reconstructed objects, so that spectators could only appreciate aesthetics of the artifacts. This long tradition was broken in early

twenty century by abstract painters and sculptors in Europe. For an example, Marcel Duchamp exhibited the first interactive sculpture *Bicycle Wheel* in Paris, 1913. Since the Duchamp's attempt, spectators could move forward artworks closely and allowed to touch them. Interaction, instead of observation, can stimulate spectators to explore deeply into artworks and to participate in the art exhibition. End of twentieth century, computers evolved as a tool of the digital interaction which reacts with spectators continuously applying artistic interfaces. Interactive art induced spectators to participate in the exhibition rather than staying as bystanders.

The media art exhibition, entitled as *Media Sensibilia – extended perception*, held late 2019 at the gallery of GINUSEUM in Gyeongin National University of Education in Incheon, Korea. It was planned with the premise of considerations for children and visitors from local district to participate in educational programs along with the exhibition. In the range from photography to machine learning algorithm, nine Korean artists had participated with their works, showing the current state and diversity of digital art accepting the theme of embodied interactivity. The first artwork that can be discussed the active interactivity in the exhibition is the *Yulyeo*, which means musical rhythm, by Chang Geun Oh. The artist presented a kind of mirror effect using a camera in the



[Figure 3.1] Children interact with artwork Yulyeo dancing in front of the screen.

middle of the motion graphic images in real-time, which visual images aroused an atmosphere of music video, and consequently, visitors could take a role as performers with fast beats. As a singular result of this interactive artwork, children and teenagers showed dancing gestures along with the image sequence. They could perceive the delayed images from digital camera to the screen during continuous improvisation and enjoy the interaction with the artwork beyond the intention of the artist.

In the exhibition, artist Minha Yang projected *Visual Reinforcement Activity* which demonstrates a kind of machine learning algorithms that generated computer signs on the large screen to flow like black smoke followed by the audience's position. This interactive artwork cited symbols used in the early experiments of

computer graphics and presented black patterns on the screen, and the interaction was updated each time with the shape of bubbles flowing in the direction in which the audience stood. While Minha Yang's work contains cutting-edge technology and show black and white aesthetics as like oriental paintings, Jumi Paik's artwork *P to P* clearly reproduced portraits of people connected to each other depicting networking relations. This video artwork temporarily stores the camera images of a spectator approaching the blank screen, and then connects the lines of the two people with the flow of particles when the next visitor approaches. 'P' in the title of the work, means a person who exists individually in the era of social network services, and at the same time, means 'Peer' as a visitor who shares the works of the exhibition space.



[Figure 3.2] Minha Yang's media projection generated computer symbols and shadows following spectators' movements(right), while Lee Lee Nam's screens showed intervention among the famous traditional paintings from the Western and the Eastern.

*P to P* was invited to the Community Media Center in Incheon after the exhibition at GINUESIUM, because it produced images that differentiate from the limits of connectivity of broadcasting or traditional media. As an institution that educates residents on the media literacy (ML) and content creations, Community Media Center in Incheon provides various opportunities to participate media installations in the Media Experience Zone on the third floor of the building. In addition to *P to P* installation, there are more digital contents of participating as like in weather forecasts using blue screen's chromakey composition, as well as digital books produced with augmented reality technology. This experientable exhibition served as an opportunity to recognize how digital media

change current media contents beyond traditional ML education biased towards broadcasting and public media. Broadcasting and Internet portals unilaterally provide the media content as they have edited to the majority, so it is necessary to grasp the messages and nuances. On the other hand, interactive artworks such as digital installations reveal the characteristics of digital media and disassemble the mass media environment. The transition to the new era of personal media, requires more creative expressions and reactive communications.

Many of media artists have frequently prepared for the transitions from traditional media to the new media experimenting with unveiled possibilities. Their experiments provided a foundation for multi-layered communication



[Figure 3.3] Spectators interacting with media installation P to P which generates relational lines and digital particles between two individual persons in the same space but different moments.

with personal media. The educational effects of media art experiences the embodied interaction in the exhibition spaces encouraging to exit from small screens. This is because media art

expands the user's senses as observed from the *Media Sensibila* exhibition and provides an opportunity to perceive the future media beyond the conventional media.

### 3.3 Participation and Convergence in the University Gallery, GINUESIUM

Since 2018, it has operated exhibition and educational programs based on participation, convergence and collaborative approaches. It plans exhibitions and educational programs, asking continuous questions about the role of the university's exhibition space. Since the

university has diverse members such as the member of university and the member of local community, it is important to think about what they want and what we want them to experience in GINUESIUM.

#### 3.3.1 The key ideas of GINUESIUM

The condition of a university art museum makes us to think about the changing role of an art museum. The one is that the university art

museum provides materials and spaces for research and education for university members. The second role of the university art museum is



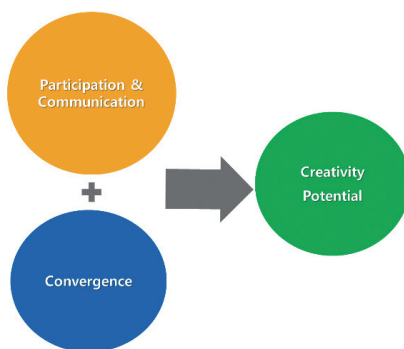
that the university has to provide arts education for local community. To achieve these purposes, we use two concepts, participation and convergence.

The first concept, participation comes from Nina Simon's participatory museum (Simon, 2010). Recently, many museums tried to make people participate in exhibition in many different ways. For visitor's participation, the museum should think visitors as prosumer who can not only receive what the museum said, but also make meaning of their own museums (Ahn, 2019; Choi, 2006). To this end, we need to have various exhibition and educational strategies to encourage visitors to participate. In so doing, visitors can enhance visual literacy.

The second concept, convergence, is also considered more important in art museum education. Kim (2012) said convergence education should focus more on the creative aspects of making new things, not just on connecting knowledge from various academic disciplines.

To this end, we wanted to develop educational programs in a convergent way so that all visitors could realize their creativity and potential. This is important that we need help visitor not only who like art but also who doesn't like art find out their own interests or connection from convergent activities.

For developing and practicing the museum education program, we have the key ideas as educational goals of GINUESIUM. The following diagram shows the relationship between key ideas. Our objective is participation and convergence. We use storytelling as a teaching and learning method. Creativity and potential are goals of GINUESIUM. As time goes by, we realized that it is important for the visitor to be able to find out not only creativity but also their potential in participating and communicating at the convergence program.



[Figure 3.4] The relationship between key ideas in GINUESIUM

### 3.3.2 Participation

Recently, the interest about participation of visitors has been increasing in museums (Ahn, 2019; Choi, 2006). Also, GINUESIUM has emphasized the visitor's participation in gallery space and a unique participation program, 'I am an Art Critic' program.

This is the first example that shows the ongoing program of visitor participation. We

displayed two versions of interpretation, museum's version and local people's version. If you read the text on the right, you can easily empathize to the text of the general public. It is written by the owner of a small snack restaurant near university. In conversation with the owner, we knew that he likes art and sometimes visited art gallery for his friends' art show,



[Figure 3.5] Gallery Wall Text (YoungWook Lee, What was the dream that the city had? Photography, 2011)

Text of art gallery	Text of a local resident
<p>Artist Lee Young-Wook has long recorded the appearance of the city around his studio... the "scenery" is not an objective, unimpressed, stopped screen, but a place where changes in time swept through the place are buried, and a living space that can constantly change and look different depending on the viewer. Here, we stand in a desolate vacant lot like a ruins and look at the rides over the concrete fence, and the artist is reproducing the experience of feeling unfamiliar for a moment depending on the surrounding background of familiar and welcoming objects.</p>	<p>Beyond the wall, amusement parks are a world full of joy and joy, but the scenery on the other side between the walls is reflected in dizziness, sadness, and anger. If you climb high and come down with a deep desire in your heart on a ride flying back to the sky, you will feel empty, empty, and sad that you have not achieved your will. Living like a squirrel spinning its wheels, it seems to quietly express our dizzy lives, tangled and tangled like an electric wire.</p>

and he wrote very hard. Later we heard that he asked other community member to read his writing and to get some comments. When he visited the gallery, he was very happy and proud to see his text on the wall.

During exhibition, we wanted to know what

### 3.3.3 Convergence education in museum

In convergence education, art plays a very important role in convergence with various fields. In particular, imagination, sensibility, and visualization principles inherent in art play an important role in fostering creative convergence talent. Furthermore, art goes beyond convergence between subjects, connecting viewers' lives and education and connecting experience and learning (Kim, 2012). In other words, art plays an important role as a link in convergence education. Art museum education is aimed at convergence education in GINUESIUM. In

text the visitor prefers to read and sympathy. Later, we saw many visitors reading the text of the general public very carefully. They easily understand the meaning of the text and image and have big interest in the local resident's text.

GINUESIUM, visitors do not only stay in appreciating art and understanding its meaning, but also cultivate creativity through convergence of art and science, or art and media education, as well as convergence of art and life.

The example of the volunteer program for high school students shows the possibility of art-based media education and a convergence platform through collaboration with local institutions. We developed the volunteer program with a graduate student and Incheon media center provided workshops for this program by



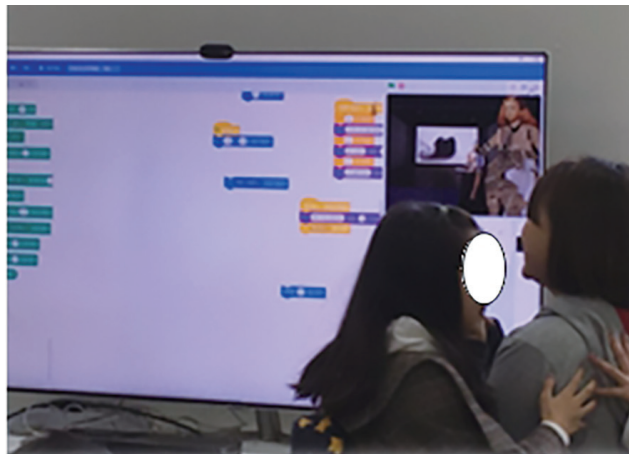
[Figure 3.6] A high school student taking video

professionals collaboratively. Based on the understanding of the GINUESIUM exhibition and the advertisement of the art museum, high school students made an advertising video of GINUESIUM exhibition from a teenager's perspective. Professional instructors of Incheon Community Media Center provided video making workshops, and Eunseon Yu, a graduate student, in our university developed and operated the program and wrote the master's thesis with this project. Since there are not many programs for teens in art museums, we tried to provide volunteer programs in art gallery for teens.

One example, *GINUESIUM Story* made by three high school students for elementary school students focused on what elementary school students would experience when they visited to GINUESIUM. They made a kind of pre-visit video for future visitors who will experience and

get motivation about the exhibition in advance. To make this video, they learned how to use camera and edit video. After writing storyboard, they took and edited video using edit program and used music, too. Even though it had been two-day workshop, they finally completed their mission.

Another example is a program of 'the story coding with artworks' in which many students such as university students, high school students and elementary school students participated and worked collaboratively. It is a kind of relay teaching program in which after visiting the exhibition, the university students taught coding to high school students and the high school students with some assist with university students taught elementary school students. The mission was that the elementary school students made short videos using coding programs based on their own stories with some



[Figure 3.7] Elementary students are sharing their story.

images of artworks. At the end of programs, they share their video with other students. In this program, diverse age groups communicated

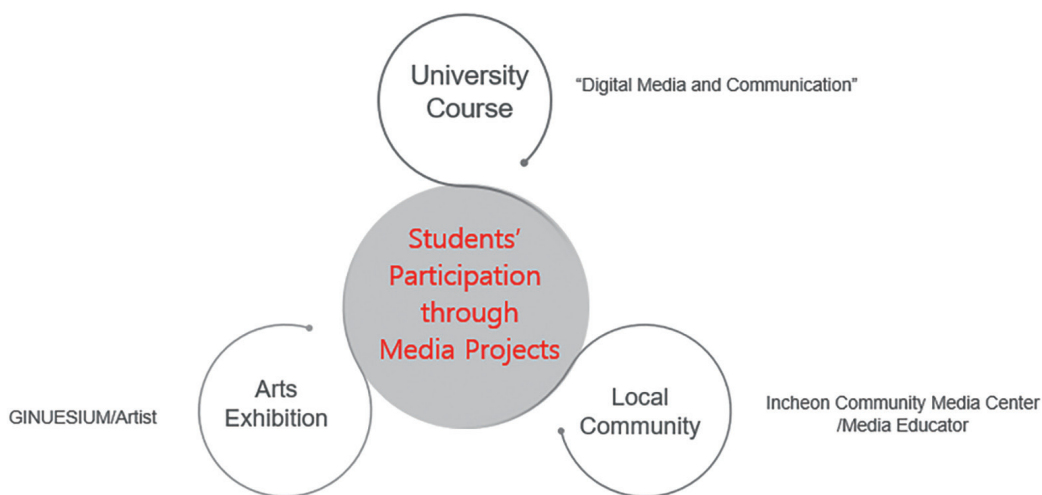
each other and completed their project successfully. They fused their experiences with art and their stories based on media competences.

### 3.4 Integrating media arts within university course on media literacy

Artists who participate in the exhibitions at GINUESIUM have been actively encouraged to collaborate to provide workshops for regular courses at the university with Professors who are willing to integrate arts into their lectures. One of the successful examples is a photography and video-making project that was conducted in the "Digital Media and Communication" class, which is a liberal arts course provided for the first year students at Gyeongin National University of Education. As a selective course, this class can be chosen among three classes – the other two are "Language and Human Interac-

tions" and "Literature and Human Lives". The "Digital Media and Communication" class aims to foster ML for undergraduate students who train to be teachers of elementary education, while the other two classes focus on understanding verbal and written communications or literary works.

The integration of media arts within ML-focused course was intended to provide students with an experience of appreciating high-quality visual art works which explore the sociocultural meanings of colors particularly in relation to the representation of gender. Representation is one



[Figure 3.8] Students' participation through media projects for media literacy

of the key concepts of ML education (Buckingham, 2003, 2019). ML education requires "active inquiry and critical thinking about the messages we receive and create" (National Association for Media Literacy Education, 2007, November), and it is "not about to ask IF there is a bias in a particular message (since all messages are biased), but rather, WHAT the substance, source, and significance of a bias might be" (National Association for Media Literacy Education, 2021, June). It is important to critically explore how specific groups of people, objects, and social phenomena and events might be represented in the media which influence the audience's thoughts, feelings, and social actions.

The students' activities and the invited lecture of the artist were carefully created and arranged through a series of dialogues for brainstorming between the lecturer and the artist, developing core activities to be make the

students actively engaged in the critical analysis of the ideologies, social values, and interests involved in media representations, based on their own creative activities of taking photographs of everyday objects. After the workshop with an artist, the students were asked to make videos in small groups to reflect their experiences of participating in the Arts exhibition as audiences as well as what they learned through the workshop with an artist. In this way, the ML class tried to provide the students with an opportunity to understand that all messages are constructed - media messages are created by an author or media producers by constructing meanings rather than simply reflecting the world. The collaborative design of the students' participation through media projects was made by the partnership among university course, arts exhibition and local community, as it can be described below in Figure 3.8.



[Figure 3.9] The workshop with an artist was integrated with the students' participation as audiences of the arts exhibition at GINUESIUM.

JeongMee Yoon, the artist who collaborated for the ML course, is an internationally recognized artist in the field of photography and a winner of many renowned awards including the Sovereign Asian Art Prize (Hong Kong, 2011). Through the Pink and Blue Project, as it can be found on the artist's blog (<http://www.jeongmeeyoon.com>), she has investigated the colors, particularly pink and blue that can be found in young children's everyday objects such as clothes and toys. The photographic works draw the attention of the audience to the social construction of gendered colors of commercially produced children's possessions which could define and affect their identities and agencies

from very early years when they might not be able to decide what to choose. She also showed how the colors of objects of the same persons might have changed as they grew by revisiting some of the girls and boys after seven years and taking pictures of their objects which were not predominantly pinks and blues anymore.

The collaboration with the artist in the ML course was comprised of three steps. Firstly, the students were asked to prepare ten photos that they took by choosing one color of their choice and chasing it with their own cameras when they were walking by streets for a week. Students are asked to choose a color among red, orange, yellow, green, blue, purple, pink, white,



[Figure 3.10] The collaborative collage of the photos 'Chasing Colors'



[Figure 3.11] “Meanings of Colors that You haven’t known”  
 (<https://youtu.be/kKdPqpf-xE>)

grey, black, silver or gold to ‘chase colors’ with their own choice of cameras with a device of their choice: a smartphone, DSLR, or a digital camera. The title of the project was named as *Chasing Colors* which was a simulation of the process of the methods that the artist often applied to her own creation of photographic works. We hoped that this simple task could provide the students with opportunities to think and act as an artist who explores the symbolic meanings of colors that are embedded in historical, social and cultural contexts.

The second part was the invited talk from the artist on her own works as well as on the symbolic meanings of colors. The third part was the students’ collective collage of the photos of diverse colored objects as a whole group. This collage was led by the artist right after the invited talk. After this experience of working with an artist, the students were asked to make

videos about their experiences of working for the project of *Chasing Colors*. The planning was taught and advised by the Professor of the course. The students learned how to make videos with their smartphones from media educators who came from Incheon Community Media Center which had an MOU with the university for collaboration of media education. The whole project of "Chasing Colors" took seven weeks including the three parts of the students’ taking individual photographs, the artist-invited talk and the collective collage workshop as well as the students' video-making project as small groups. Figure 3.9 shows how the artist’s talk took place and Figure 3.10 is several scenes of the collective collage workshop.

The place where the students’ *Chasing Color* projects were exhibited was originally an empty wall which was used for the place to display the responses of the audience. The



students participated in the collective collage of their photographs that they prepared, after the artist's talk was finished. The artist provided her own response as an audience of the student's collective collage, focusing on the symbolic meanings of the colors that the students collected, after it was completed. In this way, an audience-participated photographic collage was created and displayed as a part of the exhibition. "Meanings of Colors that You haven't known",

### 3.5 Conclusion

During last three years GINUESIUM has played a role of a convergence platform through participation and convergence of university people and local residents. Convergence platform serves as a hub for transportation and many transactions and exchange of values occur within it (Yoon, 2012; Ahn & Kim, 2021). It is a space where artists, visitors, curators, and educators communicate, and it is a physical space where constant participation and interaction are made to meet their needs and values, and it is also a virtual space and a service. By linking media production activities with an artist's workshop in a regular, ML class among university courses, it was attempted as a new ML activity that provided the students valuable opportunities to work with an artist as producers of media works to consciously think through the messages that they construct and share with digital media. We think university art museum should provide the space where univer-

one of the examples of the videos that the students, as shown in Figure 3.11, is one of the examples of the students' made videos, using the photographs they created along with the words and the objects that they found in the process of exploring the symbolic meanings of the colors that they chose, such as 'passion' for red and 'environment' for green and the scientific information of these colors, including the wavelength of each color.

sity people and local residents participate and make creative meaning with their own storytelling. And at the same time the university art museum should help people to discover their own potential as social meaning-makers while participating in gallery activities.

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## 4. The Media Biotope in the Digital Age

### Shin Mizukoshi

In this essay, I will attempt to rework the concept of the 'media biotope' (which I coined nearly 20 years ago) as a space for people to

#### 4.1 What is a media biotope?

I conceived the concept of the 'media biotope' around the year 2000 and continued to develop it in the following years (Mizukoshi, 2005). In short, a media biotope is a small media ecosystem that encourages non-specialists to

improve their media literacy (ML) in a fully digitalized environment.

autonomously create and manage small media. This concept is part of a strategic vision to foster ML and allow independent creators to compete with mass media organizations with vast capital.

I used the ecological term "biotope" as a metaphor to change our understanding of the media landscape. This term originally emerged in Europe as part of a citizens' movement for environmental restoration. A biotope is "a small ecosystem suitable for the habitation of living organisms" (Sugiyama, 1995). As such, biotopes are not ecosystems found in the wilderness; rather, they can be small and ubiquitous places, such as the backyard of a house, a balcony, a neighborhood park, a stream, a shrine, or a temple. In this context, biotopes are created when places that form part of our daily lives are redesigned as porous spaces with many gaps and holes suitable for creatures to live in. The idea behind the creation of biotopes is to create a network of such ecosystems, considering the local environment as a geographical plane rather than a point, to enable citizens' involvement in environmental restoration.

ML in Japan received much attention in the late 1990s and the early 2000s. This is because

#### 4.2 The four elements of media biotopes and their application

Media biotopes have four essential characteristics (Mizukoshi, 2005). First, a media biotope is a small media ecosystem; this means that a media initiative created by amateurs with no special skills can be maintained and managed without becoming a capitalist enterprise. Secondly, although a media biotope is a small-system, it does not exist as an isolated "point," but as a "plane" of interconnected elements.

various scandals represented in the media spurred a debate over the ethics of journalism. Simultaneously, there was a growing interest in computers and the Internet, the use of which was beginning to spread in earnest. Globally, small local and online media outlets were set up by non-specialist citizens to disseminate information through alternative channels. The spread of the Internet, laptops, and small high-performance video cameras were crucial to this transition.

I explored a theoretical framework to comprehensively and dynamically understand a phenomenon wherein the mass media-centered media environment, which had been prevalent throughout the twentieth century, gradually began to change, giving way to ML, citizen media, and local media. Subsequently, I developed the concept of the media biotope, which posits activities aimed at preserving and restoring the media environment.

Third, the media biotope does not originate from eschewing the larger media landscape; rather, it develops based on the daily-life elements surrounding it. In environmental activism, a common strategy to protect the pristine nature of vulnerable ecosystems is to make them inaccessible to humans; by contrast, the creation of biotope networks is an activity that does not reject humans' interaction with the

natural environment, as everyone can participate in environmental restoration through the creation of these porous spaces. Similarly, a media biotope is not isolated from the commercialism, monopolistic control, surveillance, and invasion of privacy of contemporary media. However, this does not preclude us from using existing services and software autonomously. Fourth, to create and run a media biotope, ease of access to specific manuals and tools is essential. This requires that manuals are easy to understand, and that tools and materials can be bought in mass-market stores. Furthermore, textbooks on media theory and ML are needed, as well as manuals for running workshops. Thus, media biotopes often use open-source software, open data from local authorities, PCs, smartphones, cameras, microphones, or a combination of these.

Based on these ideas, I have engaged in several research projects throughout the 2000s and the 2010s, including the Media Expression, Learning and Literacy (MELL) Project (2001–2006), Media Exprimo (an interdisciplinary research project on information platform design

#### 4.3 Limitations and challenges

Nevertheless, the media biotope has revealed its limitations as a theoretical model due to changes in the media environment that have become more pronounced since the 2010s. I will list some of these problems in this chapter.

First, the use of smartphones and social

for people's media expressions and digital storytelling; Core Research for Evolutional Science and Technology (CREST) by Japan Science and Technology Agency (JST), 2006–2012) and Storyplacing (co-design of a digital storytelling system with geographic information in a Japan Society for the Promotion of Science (JSPS) and the Academy of Finland (AF) joint research project; JST, 2006–2012). We produced various manuals and toolkits for these projects and created small media ecosystems in various parts of Japan where people can network with each other.

For example, for Storyplacing, which has been operating since 2014, we developed a unique media system and workshops that enabled ordinary people to use simple digital devices to create stories about familiar events and share them with their communities. However, not all of Storyplacing's ventures have been successful, and only some elements of this project are still in operation. Nevertheless, the media biotope has worked well as a bottom-up media strategy.

networking services (SNSs) has become widespread since the 2010s, leading to the rapid development of n×n communication. The media biotope provides technical and social tools to encourage people to express themselves in the media. However, SNSs fulfill a similar purpose

through a highly convenient service allowing everyone to speak freely and enjoy networking at will. Thus, at first glance, it seems that the media biotope is no longer necessary.

Second, the media biotope's vision of small media has become relatively outdated; small media at the start of the millennium comprised cable TV, small local newspapers, municipal internet noticeboards, and community radio. These small media operated autonomously in local communities as an alternative to national newspapers, the Japan Broadcasting Corporation (NHK), and commercial broadcast networks with national coverage. However, these small media lost relevance with the rise of SNSs. In other words, the media biotope is a pre-Web 2.0 idea. However, the current media landscape in the early 2020s has led to the unprecedented polarization of public opinion, excessive surveillance, and widespread privacy breaches. In light of this, we should ask ourselves the following question: has the current media landscape renewed the relevance of the media biotope as a solution to Web 2.0's myriad problems? To answer this question, we must examine two points. The first is the changing concept of media, and the second is the discussion of media's social responsibility and public nature.

The small media of the 2000s and the SNSs developed since then are certainly very different; however, it is necessary to analyze exactly how they differ. Cable TV and small local newspapers were alternatives to the mass

media, but they functioned in a similar way to mass-media TV stations and large newspapers. The shows broadcast by local independent networks differ greatly from those broadcast by the NHK. However, the social function of television, as an activity for families to gather around, has not changed. The same is true for newspapers and the radio. In other words, the small media around the year 2000 served a similar function to that of big media. Both small and mass media were only a part of society; that is, media was something to be consumed at specific times and places of the day.

However, today, media is not merely an element of society but an integral part of the social infrastructure (Srnicsek, 2016). In the past, media was an entity with an independent organization and technological system within society. Today, everything is interconnected via digital networks, while media businesses are embedded in the services and applications that run on them. The Twitter timelines and YouTube videos we access every day are juxtaposed on the same network as the systems that watch over our families at home and the navigation systems that we use in our cars. Thus, the emergence of new media infrastructure has reduced the presence of small, independent media. This change has forced us to change our understanding of the concept of media fundamentally, from conceiving media as content to conceiving it as a platform and as infrastructure.

Second, the media biotope must have an inclusive philosophy, valuing social justice and respecting diversity. If such a philosophy is not taken into account, then in a sense, the media biotope has flourished dramatically in the age of Web 2.0 in evil ways. The online proliferation of conspiracy theories, racism, sexism, and other fanatical beliefs is rampant in SNSs. This divide in public opinion is partially owed to the nature of search engine algorithms (Udagawa, 2021), which draw more attention to information that attracts more online traffic, as well as to the echo chambers and filter bubbles that SNSs inevitably create (Bruns, 2019). Various studies in Japan have shown that only a small percent-

#### 4.4 Reintroduction of the media biotope

Therefore, it is necessary to clarify why I reintroduce the concept of the media biotope, in spite of all its limitations. First, ML education is essential, even as the media environment changes. Expressing oneself freely over the Internet is easier than ever before; however, paradoxically, this has given a rise to social division. Additionally, the staggering advancement of photo- and video-manipulation technology has caused deep-fake information to be increasingly common. Therefore, it is more necessary than ever to have the skills and knowledge necessary to use the media critically and actively. Simultaneously, the average life expectancy of people in Japan is increasing, while the need to adapt to societal changes in middle age is growing

age of all SNS users are outspoken (Tanaka 2019, Tsuji, 2019). However, the overwhelming majority of quiet users tend to think that the opinions of the minority represent the majority, and they tend to only consume media on SNSs and the mass media.

Therefore, it is evident that developing a small media network by a non-specialist public is not enough to create media biotopes as I had initially envisaged them. What is essential is to understand the media's social responsibility and the idea that media activities should be carried out with consideration for social justice, democratic procedures, and inclusivity.

(Ministry of Education, Culture, Sports, Science and Technology, 2019). Thus, ML is an urgent issue. However, ML in Japan has only just begun to be developed in primary and secondary school curricula. Some courses in lifelong learning, social education, and workplace learning have been developed, but no full-scale efforts have been made. Moreover, it is important to mention that the disparity between school education and other forms of education is a common phenomenon worldwide. Facing these problematic situations, to develop ML education outside of school, we need a series of individual practices and a comprehensive strategic vision.

To develop ML, people must understand media in an informal and emergent way, using

everyday familiar things as learning material. Therefore, ML programs cannot be fully understood as one-way lectures on how to operate the media or manage content problems. Like many other things, ML is nurtured and developed through constant communication within a learning community. In addition to schools, community halls, workplaces, and local cafés are possible places to foster such communities. Public facilities

#### 4.5 Revising the concept of media biotopes

In Japan, in 2019, the number of single-person households reached approximately 15 million, accounting for approximately 29% of all households (Ministry of Health, Labour and Welfare, 2019). Particularly, many older adults live alone. One of the main factors enabling and accelerating people's transition into living alone is the spread of digital media. However, although digital media are bringing people together, they are simultaneously isolating them. As many previous studies have shown, ML is a collaborative learning process (Masterman, 1989, Buckingham, 2003). In reality, however, many people lose the opportunity to participate in this process and become isolated, particularly older people. However, there are very few opportunities for casual discussions and learning about the media, even among younger people.

Therefore, there is a need for social spaces that enable individuals to learn to use media in their daily lives, discuss their significance and characteristics, and criticize their content.

ties created by renovating closed schools also appear as viable settings. Moreover, many learning communities are emerging online.

Media biotopes have the potential to address the aforementioned needs. Considering the effectiveness of the original concept, it is possible to adapt its conceptualization based on the changes that have occurred in the media environment in recent years.

Similar to daycare centers for the elderly and social welfare facilities for the disabled, we need places where people can learn about the media. A new media biotope would be such a place.

Let us compare the revised concept of the media biotope with its original version.

##### (1) Media concepts

In the original concept, the term "media" was used to refer to small, independent media businesses, such as cable TV and local newspapers. In the 2020s, however, digital networks have become so pervasive in society that nearly every artifact (ranging from smart household appliances to cars) has acquired some sort of media functionality. Therefore, the media concept should include all objects and systems that serve as media of communication, rather than merely the small media of the past.

##### (2) Alternatives

The original conceptualization of the media biotope was part of a vision to create an alternative media ecosystem in contrast with mass

media organizations with vast capital. The revised concept is also part of a vision of an alternative media ecosystem where everything functions as a medium. It is where people collaboratively become aware of their existence and problems. They do not simply oppose media giants, but they appropriate the services they provide (de Certeau, 2021).

### (3) Human view

The paradigm of the media biotope assumes that ordinary, everyday people can become involved in the media. However, in the original concept of the media biotope, this only included people who were good citizens and actively participated in small media projects. It envis-

## 4.6 Setting up a new media biotope

Finally, we would like to discuss the prospects of the media biotope. I saw the reports of the Belgian and Korean teams at this international seminar as both discussing the development of a new conceptualization of the media biotope. At the University of Namur, Belgium, the interdisciplinary team revealed the process of working with non-governmental organizations with a local tradition to develop critical algorithmic literacy. The Korean team examined how universities, university museums, and community centers in Incheon create a sustainable learning environment around media arts. As part of our Storyplacing initiative, we are also working with Bunkyo Ward, Tokyo (where the Hongo Campus of the University of Tokyo is located),

aged new media practitioners who acquired ML and developed media practices that crossed the boundaries between professionals and non-professionals. It was, in a sense, an elitist view of humanity. However, the revised conceptualization of the media biotope includes people who are hurt and discriminated against in platform capitalism, as well as those who are left behind as participants, in the development of new media. It assumes that these individuals also need a media biotope. In other words, the revised concept imagines that all people can acquire ML by creating their own media ecosystems and determining what constitutes good practice.

on a joint project that combines workshop practices for people's digital storytelling with community archive-building (Manabe et al., 2020). [Figure 4.1] is a sketch of media biotopes among three projects. We are surrounded by media platforms and infrastructures run by huge capitals. But if, for example, the media biotopes created in Namur, Incheon, and Bunkyo Ward could be networked with each other, it would be possible to secure a relatively autonomous media ecosystem within a capitalist media ecosystem. In this way, people could gain the resilience they need for the digital age.

If we want to adapt the concept of the media biotope to the realities of our time, we should scrutinize these cases and identify general

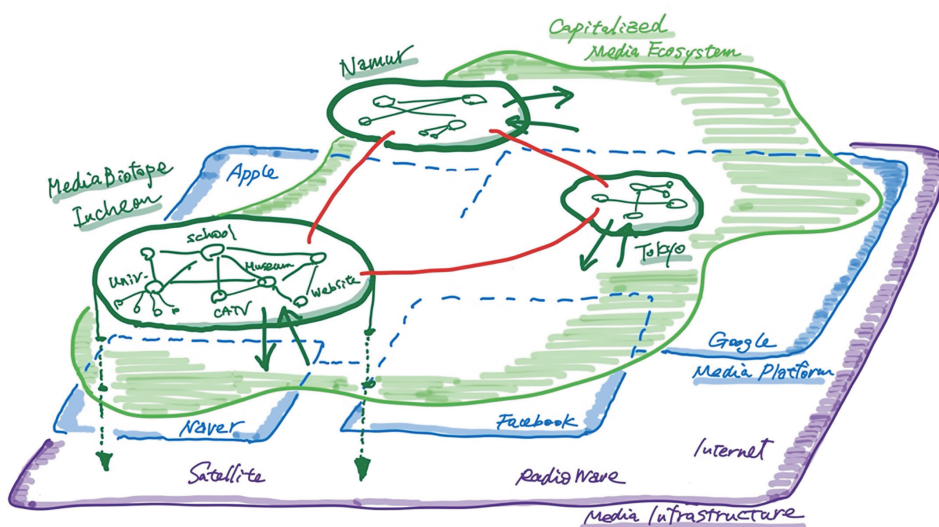


design principles. On this basis, we list the required plans for the moment.

First, the new media biotope constitutes a place of learning, especially outside of school, where adults are rehabilitated in their engagement with the media, serving as a shelter and sanctuary for the vulnerable. In other words, in contrast to traditional ML, which has an active and elitist tendency to develop a rational and critical intellect, new media biotopes should transform the inflexible relationship between marginalized individuals and media platforms. Therefore, the process of caring for these individuals is essential. As such, it is necessary to gradually improve this relationship through media representation and storytelling. To make

this "media rehabilitation" possible, we must work on the development of a toolbox of ML materials and workshop-based learning programs and tutorials.

Second, the new media biotope is a place where the real and virtual intertwine. On the one hand, we should accept commercial services, such as social networking sites, and use them to make the most of the advantages of virtual communication. On the other hand, as with physical rehabilitation and mental health care, ML can only be achieved through intensive face-to-face communication. To this end, it is necessary to use social spaces rooted in traditional physical spaces. For example, in Japan, there are three possible types of spaces for this



[Figure 4.1] Sketch of media biotopes in the digital age

purpose: those based on lifelong learning and social education organizations, those based in local high schools and universities, and those found in local media and cooperatives. Particularly, lifelong learning and social education, which have traditionally lagged in media-related teaching and learning, should be at the forefront of media biotope network development.

In Japan and abroad, there are many citizen activities such as environmental conservation, the revival of local communities, the enhancement of workplace learning, the development of third places, children's cafeterias, and practices to reduce the education gap. There is also a growing interest in linking art with education and society through a participatory design. The idea of a media biotope could underpin all these seemingly disparate movements. Communication drive all civic activities, from environmental issues to poverty alleviation. And learning about the media that mediate that communication is fundamental to all of them.

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Anata no meisho monogatari あなたの名所ものがたり  
(Your own storytelling about famous places):  
<https://bunkyomm.tumblr.com>

#### Website:

Storyplacing:  
<https://storyplacers.tumblr.com>

#### Acknowledgement

This work is supported by “New Theories of Literacy for Media Infrastructures,” JSPS KAKENHI Grant-in-Aid for Scientific Research(B) from 2018 to 2020: Grant Number JP18H03343, and “Community Archive Design for Local Sustainability,” JSPS KAKENHI Grant-in-Aid for Scientific Research(C) from 2018 to 2021: Grant Number JP 18K11948.



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# Social Networks for the Next Media Literacy

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Chang Geun Oh\*\*\*\*, Hyeon-Seon Jeong\*\*\*\*\*

This collection of papers is based on the international seminar "Social Networks for the Next Media Literacy" report. The seminar was held in February 2021, and the final event of the Grant-in-Aid for Scientific Research "The New Literacy for Media Infrastructure" project, which Shin Mizukoshi led for three years, starting in 2018.

In the following articles, Mizukoshi first outlines the aims and results of this research project. According to their country of origin, three pieces will then be presented in the following order: Belgium, Korea, and Japan.

First, Jacques and Verbesselt examined the "In the Shoes of an Algorithm" project, which started in Belgium in 2018, intending to develop an educational response to the issues raised by recommendation algorithms used in digital media. The project provided a pen-and-paper educational game in which participants work together in teams to design their recommendation algorithm.

Second, Ahn, Oh, and Jeong discussed the possibilities and challenges of using the University Gallery, GINUESIUM at Gyeongin National University of Education for media art and literacy education. They found the space has been played a role of convergence platform through participation and convergence of university people and local residents. GINUESIUM is a space where artists, visitors, curators, and educators communicate, and it is a physical space where constant participation and interaction are made to meet their needs and values.

Finally, Mizukoshi reexamined the concept of the media biotope, which he coined around the year 2000, as a space for people to improve their media literacy in a fully digitalized environment. Under the digital transformation of media, the new media biotope should be a shelter and sanctuary of learning, caring, where adults are rehabilitated in their engagement with the media. It will be a place where the real and virtual intertwine.

These results demonstrate the effectiveness of considering the next generation of media literacy education community-based and advocating the significance of these communities' collaborative development.

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**Key Words** : Media Literacy, Algorithm, Media Art, Digital Media, Interdisciplinarity, Media Ecosystem