Media Information Literacy Education and Evaluation System in Japan: An Example of Japanese High School Information Curriculum

Tianyi Wu*

Received: May 14, 2023 Revised: October 24, 2023 Accepted: October 26, 2023

Abstract

Ever since the world entered the digital era, governance of false information becomes a global issue. WHO has even coined the term "Infodemic" to highlight the dangers of false information. False information, as a global issue, has already caused severe problems, challenging the governing capacity of administrators all over the world. In Japan, there are ridiculous but widespread rumors like "running out of toilet paper due to the shortage of masks". On the other hand, with the rapid development of AI technology, the cost of spreading false information is getting lower while the expense of refuting it is getting higher. Media Information Literacy (MIL) is the most effective strategy to address this dilemma. Since the 1980s, Japan has developed a comprehensive media information literacy education system and a learning effectiveness evaluation system based on the experiences of European and American countries. This paper will introduce the Japanese media information literacy education and evaluation system by taking the Japanese high school "information" course as an example, whose course syllabus are closely integrated with the current social reality and the evaluation methods applied are also derived from its learning objectives. The exploration and practice of Japan in the development of media information literacy education and evaluation set a good example for country whoever faces the same situation.

Keywords: Media Information Literacy, Higher Education Study Guide Essentials, Evaluation Guidelines, Evaluation Methods, Evaluation Tools

* Academy of Global Governance and Area Studies, Sichuan Normal University
5 Jingan Road, Jinjiang District, Chengdu 610066, CHINA.
E-mail: tianyi.w@sicnu.edu.cn

การศึกษาด้านการรู้ทันสื่อและระบบประเมินผลในประเทศญี่ปุ่น : ตัวอย่างจากหลักสูตรสารสนเทศของโรงเรียนมัธยมญี่ปุ่น

เทียนยี่ วู*

รับวันที่ 14 พฤษภาคม 2566 ส่งแก้ไขวันที่ 24 ตุลาคม 2566 ตอบรับตีพิมพ์วันที่ 26 ตุลาคม 2566

บทคัดย่อ

ตั้งแต่ที่โลกได้เข้าสู่ยุคดิจิทัล การควบคุมข้อมูลเท็จได้กลายไปเป็นประเด็นระดับโลก องค์การอนามัยโลกได้นิยามคำว่า “ภาวะข้อมูลระบาด” เพื่อย้ำให้เห็นถึงอันตรายจากข้อมูลเท็จ ทั้งนี้ข้อมูลเท็จนั้นเป็นประเด็นระดับโลกที่ส่งผลให้เกิดปัญหารุนแรงมากมาย ประกอบกับท้าทายศักยภาพในการกำกับดูแลของฝ่ายบริหารทั่วโลก ในประเทศญี่ปุ่นมีข่าวลือน่าขันที่กระจายในวงกว้าง เช่น “กระดาษชำระกำลังจะหมดเพราะหน้ากากอนามัยขาดแคลน” ในขณะที่มีการพัฒนาอย่างรวดเร็วของเทคโนโลยีเอไอ ส่งผลให้ความเสียหายด้านการปล่อยข้อมูลเท็จนั้นน้อยลง หากด้วยแลกมากับความเสียหายด้านการปฏิเสธข้อมูลนั้น ๆ ที่สูงขึ้นเรื่อย ๆ ดังนั้น การรู้ทันสื่อ (Media Information Literacy - MIL) เป็นกลยุทธ์ที่มีประสิทธิภาพสูงสุดในการแก้ปัญหาดังกล่าว ตั้งแต่ช่วงทศวรรษ 1980s ประเทศญี่ปุ่นได้พัฒนาระบบการศึกษาด้านการรู้ทันสื่อแบบครอบคลุม ประกอบกับระบบการประเมินประสิทธิภาพการเรียน โดยอ้างอิงจากประสบการณ์ของประเทศในทวีปยุโรปและอเมริกา บทความนี้จะนำเสนอระบบการศึกษาการรู้ทันสื่อของประเทศญี่ปุ่นและระบบการประเมิน โดยใช้ตัวอย่างจาก หลักสูตร “สารสนเทศ” ของโรงเรียนมัธยมแห่งหนึ่งในประเทศญี่ปุ่น ซึ่งมีแผนการเรียนที่บูรณาการได้ใกล้เคียงกับความเป็นจริงด้านสังคมในปัจจุบัน และวิธีการประเมินที่ประยุกต์ใช้ ได้มาจากวัตถุประสงค์การเรียน การสำรวจและวิธีปฏิบัติของประเทศญี่ปุ่นว่าด้วยการพัฒนาการศึกษาเรื่องการรู้ทันสื่อและการประเมิน ได้กำหนดตัวอย่างที่ดีสำหรับประเทศที่กำลังเผชิญกับสถานการณ์ในลักษณะเดียวกัน

คำสำคัญ: การรู้ทันสื่อ หลักสำคัญของคู่มือการศึกษาระดับอุดมศึกษา แนวทางการประเมิน วิธีการประเมิน เครื่องมือการประเมิน

* วิทยาลัยการปกครองทั่วโลกและศึกษาด้านพื้นที่ มหาวิทยาลัยเสฉวนนอร์มัล
เลขที่ 5 ถนนจิงอัน เขตจิ้นเจียง เฉิงดู 610066 ประเทศจีน
อีเมล: tianyi.w@sicnu.edu.cn

Introduction

Since 2019, severely affected by the spread of novel coronavirus infection (hereafter referred to as the COVID-19), governments around the world have taken a series of measures trying to eliminate the adverse consequences of the outbreak. Among these measures, the implementation of a regional lockdown and quarantine of infected neighborhood and individuals is undoubtedly the most effective way. However, while lockdown can stop the movement and certain activities of people and viruses, the wild spread of false information is getting out of control. In Japan, there were rumors claiming that the country was running out of toilet paper due to a shortage of masks. The World Health Organization report even coined the term "Infodemic" to refer to the spread of disinformation related to the COVID-19 outbreak. On the other hand, AI technology is set to break through in late 2022 and early 2023, with the emergence of ChatGPT and Midjourney, AI products have made a strong impression in front of the public. Midjourney, an AI mapping tool, only needs a few keywords to generate corresponding images through AI algorithms, and its realistic visual effects are amazing. Midjourney is even more radical, as it has been used to generate images of the arrest of former U.S. President Donald Trump that are difficult for the average person to distinguish from the real thing with the naked eye. All these situations invariably result in lower costs of producing fake information and higher costs of clarifying it, exacerbating the risk of proliferation of false information.

And the reality is that, besides strong artificial intelligence products, highly developed and interconnected social media is also a powerful driving force of generating and spreading false information. Taking China as an example, new media platform such as WeChat, Weibo, Tik-Tok and Xiaohongshu have greatly changed people's lifestyles since the day they were born until now, penetrating various fields such as education, finance, entertainment and daily life. While new media tools have facilitated our lives and gradually become an inseparable and important part of our daily lives and work, it has also provided a hotbed for the proliferation of false information. In this circumstance, the role of Media Information Literacy (MIL) is becoming increasingly important. And it is a common concern for the industry and academia to find ways to enhance users' media information literacy more effectively to tackle problems brought by the rapid development of information technology in modern society, so that they can enjoy the convenience

brought by technological development while eliminating the negative effects of digital technology and preventing virtual space from becoming a place outside the law.

Definition of Media Information Literacy Education and Its Significance

Definition of Media Information Literacy

UNESCO's 2013 book *Media Information Literacy: Guidance for Policy and Strategy Development* describes media information literacy as follows, "Media and information literacy (MIL) is the foundation for citizens' access to information and knowledge, free expression, and access to quality education. MIL values the role of media and other information providers (including those on the Internet) in providers) in society and describes the skills and attitudes needed to evaluate and produce information and media content; in other words, it covers a wide range of key competencies that people need to be actively engaged in society." UNESCO combined the original concepts of media literacy and information literacy to come up with the concept of media information literacy. Where information literacy is defined by

(1) The need to be able to clarify and differentiate information.

(2) Ability to identify and access information.

(3) Be able to critically evaluate information.

(4) Management information.

(5) Rational use of information.

(6) Exchange of information.

(7) Use of information and communication technology (ICT technology) for processing information.

Media literacy, on the other hand, consists of:

(1) Understand the role and function of the media in modern society.

(2) Understand the conditions that enable the media to play its full role.

(3) Critically evaluate media content from the viewpoint of media functions.

(4) Self-expression, intercultural communication, and democratic living through the media.

(5) Learning the necessary skills for creating user content (including ICT technology).

In addition, media information literacy is not simply a combination of media and information literacy. But on the basis of the above two literacies, there are also media literacy, information literacy, social network literacy, library literacy, freedom of expression and information literacy, digital literacy, digital media literacy, computer literacy, Internet literacy, game literacy, film literacy, television literacy, journalism literacy, and advertising literacy are developed as a total of twelve related concepts. The concept is a rather comprehensive one, covering of wider range of competencies one should obtain in today's rapidly changing digital world.

In Japan, research on media information literacy began as early as the 1990s. Japanese scholars have formed a complete set of media information literacy education system and learning effect evaluation system by continuously researching and learning from the experiences of European and the United States, and combining them with the actual situation in their own country. They believe that under today's world, the information environment has become richer and various kinds of information are easily accessible to people. However, many people lack the ability to analyze and select information, which means they cannot always get the information they need. At the same time, the lack of information filtering ability increases the risk of information bias under the premise that modern web technologies prioritize information that is relevant to the pages that users have previously searched or viewed. Combining research from Canada and the United States, Midori Suzuki (1998) argues that media information literacy refers to citizens' ability to critically analyze and evaluate media information, access media information, and create various forms of information dissemination in a social context. Media information literacy also refers to measures aimed at acquiring such skills. In other words, what is important in media information literacy is the ability to effectively find the information they need when they need it, and to evaluate and use it appropriately. Naoko Nishida (2002), on the other hand, defines media information literacy as the ability to operate information devices and other media tools, understand how to handle information, obtain the ability and willingness to use information collection and for research activities, and behave ethically when using media, which is also the first time in Japan that media information literacy is linked to ethics. The current definition of media information literacy in Japanese textbooks for all grades is based on the summary of Masami Ido (2006), namely, the qualities and abilities to analyze and understand

the characteristics of various media, to have the knowledge to transmit and receive information, to establish better relationships with others, and to achieve self-actualization. In any case, the concept of media information literacy in Japanese academia is based on the premise of creating information, creating and critiquing information. Therefore, it's reasonable to say that, compared with definition of UNESCO, the MIL in Japan is more practice oriented, focusing on the implementation and everyday use of these skills.

The Significance of Media Information Literacy

When talking about the importance of media literacy information, UNESCO points out that in the digital media age, differences in information literacy are an important factor in individual inequality. In the digital age, those who have access to information and media resources have a natural advantage over those who do not have access to these resources. And even among those who also have access to information and media resources, the higher the ability to obtain, analyze and evaluate, the more pronounced the advantage. Media information literacy helps create knowledge-driven, inclusive and open societies. This is essential for modern government management and global citizenship. In addition, media literacy can help minorities tell their own stories using mainstream narratives, increasing the impact of niche cultures and thereby preserving cultural diversity.

In Japan, on the other hand, there are three main reasons for developing media information literacy education:

(1) The prevalence of the internet has led to an increase in information uncertainty

From the perspective of the whole society, the surging need of filtering information on the internet urges the development of MIL education. With the advancement of the Internet, information technology has penetrated all areas of Japanese society. There is a lot of information available on the Internet for problems in daily life. However, in order to protect the so-called "right to freedom of expression" in Japan, information on the Internet is very loosely controlled, which means that although information is readily available to everyone, not all the information collected is correct. While paid information published in Japanese newspapers and magazines is heavily vetted and highly

credible, there is a lot of free information on Google, Yahoo and various social networking sites that is not verified. It is difficult to judge the authenticity of each piece of information if media information literacy is low.

(2) Individuals are now able to spread messages easily

And as individuals, after being well-educated about the basic principle of MIL, the possibility of accidentally or intentionally spreading false information will be largely decreased. As the virtual space continues to evolve, self-publishing and its related technologies are flourishing. Individuals can easily use various media platform as well as social networking services to easily deliver and spread information, which makes them an influencer. On the one hand, the increasing number of influencer and social networking services can increase interpersonal interactions and allow people to access information and media resources more easily. But on the other hand, the spread of false information can easily lead to major social problems, and there are many cases of groups committing aggressive acts against individuals through influencers and social networking services. Therefore, everyone must be able to analyze and evaluate information and decide which information should be diffused. This is where media information literacy becomes critical for these individuals who have the ability to transmit and diffuse information.

(3) Media information literacy determines the survival of enterprises

For companies trying to survive in today's highly competitive business world, equipping themselves with sufficient knowledge on MIL will not only facilitate the decision process but also improve their corporate strategy. Media literacy is critical in everyday life and plays a pivotal role in business activities. Lack of media information literacy can damage a company's image and values, and sometimes can even determine the life or death of a company. Some companies' commercials have been criticized by their customer base due to racist or sexist expressions. In many cases, companies themselves are not necessarily aware of the existence of discrimination, but the absence of such awareness is rather the most dangerous. All messages sent by companies are bound to be received and interpreted as some sort of signal. As a company, it is important to consider how these messages, or signals, affect the public. Carefully consider the wording of the message and pay attention to what the message says in relation to gender, race,

ethnicity, ideology, etc. Also, in addition to the above-mentioned issues that need to be taken into account when sending messages by company representatives or company public relations, the same attention needs to be paid when sending messages by individual employees. Even when employees use their personal accounts to post information on social networking sites, they should be careful not to post false information or engage in cyber-violence, as this could lead to other Internet users investigating which company the employee works for, which could result in a fatal blow to the company's credit.

Based on the above background, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) has officially decided to add "Information" as a course in the Basic Entrance Examination for General University Admissions, which will be implemented in January 2025, to develop media information literacy, programming, data processing and other skills in order to produce more talented human resources who can make full use of digital technology. Many universities also include media information literacy as part of the required general education curriculum. The content and evaluation system of media information literacy education, which is the foundation of the General Entrance Examination for Universities (GEE), which is Japan's "college entrance examination," is worthy of our attention.

Content of Media Information Literacy Education in Japan

In 2018, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) issued a new "Guideline for Higher Education" (hereinafter referred to as the "Guideline"). For the first time, "Information" was made a required subject in high school, and it was decided that it would be included in the General University Entrance Examination (GUE) organized by the University Entrance Examination Center from 2025. Although MEXT currently leaves the setting of examination subjects and score weights to the discretion of individual universities, and three national universities have already explicitly excluded "information" scores from their overall scores, as more information about the examinations is available and the examination system continues to improve, "information" scores will be included in the overall scores of Japanese universities in the future. However, with the increase of relevant examination information and the improvement of the examination system, the scores of "information" courses will still play a significant role in the Japanese

entrance examination.

In this Guideline, the information curriculum is divided into two categories: "Information 1" and "Information 2", according to the school is a general high school or a vocational high school. The overall goal of Information 1 is "To enable students to observe and think about information in a scientific way through learning activities, to use information technology appropriately and effectively to discover and solve problems, and to develop the qualities and abilities that students should have as subjects in the information society." The following are broken down into:

(1) To achieve effective communication, deepen understanding of and skills in the use of computers and data, and deepen understanding of the relationship between the information society and people;

(2) To develop the ability to relate various phenomena to information and to use information and information technology appropriately and effectively to identify and solve problems;

(3) To develop an attitude of proactive participation in the information society while using information and information technology properly.

According to specific teaching content, Information 1 is divided into:

(1) How to solve problems in the information society.
(2) Communication and information design.
(3) Computers and programming.
(4) Information and communication network and data usage.

For these four components, the Guideline states that connections to learning about information and information technology and the information society, about identifying and solving problems, and about using data, need to be considered prior to middle school. Students should take the initiative to identify and clarify problems in the information society and think proactively about solutions from them, and schools should take steps to make computers easy to operate for students regardless of age, disability, language congruence or other relevant factors.

The overall goal of Information 2 is "To enable students to observe and think about information in a scientific way through learning activities, to use information technology

appropriately, effectively and creatively to discover and solve problems, and to develop qualities and abilities that will enable them to contribute to the development of the information society as subjects in the future." This is further divided into the following specific categories:

(1) Achieving diverse communication, deepening understanding and skills in the use of information systems and diverse data, and deepening understanding of the relationship between information technology development and social change;

(2) To develop the ability to relate various phenomena to information and to use information and information technology appropriately, effectively and creatively to identify and solve problems;

(3) Foster an attitude of proactive participation in the information society and contribution to its development while using information and information technology properly and for the purpose of creating new values.

In contrast, the teaching content of Information 2 is divided into:

(1) Development of the information society and information technology.
(2) Communication and content.
(3) Information and Data Science.
(4) Information Systems and Programming.
(5) Explore ways to use information and information technology to identify problems and solve them.

In the Information 2 course, students also need to systematically learn about information security and information-related laws and regulations, in addition to discussions and presentations about information technology and the future shape of the information society. In addition, students should also learn what changes data science brings to people's lives and educate them about the use of real data. Finally, students need to set themselves to think about the basic mechanisms and use of computers and information systems, the use of information technology for communication, the use of information technology for data, and the next one or more related tasks in the field of information society and information technology in an effort to identify and solve relevant problems.

From the two slightly different course settings, it's easy to see that MIL education in Japan values the daily practice of filtering, analyzing, and utilizing of information, while considering Japanese students as the future designers and educators of the system, equipping them with relevant skills to help them be part of a virtuous circle and improving individuals MIL thus the overall quality of MIL education system is boosted.

Evaluation Dimensions of Japanese High School Information Courses

In the book "Media Information Literacy: A Guide to Policy and Strategy Development" published by UNESCO, the evaluation of media information literacy is divided into two parts: media literacy and information literacy. The evaluation dimensions of media literacy involves:

(1) Identify and express information needs.
(2) Finding and obtaining information.
(3) Critically evaluate information.
(4) Organizational information.
(5) Ethical use of information.
(6) Communicating information.
(7) Information processing using information and communication technologies.

The evaluation dimensions of information literacy involve:

(1) Understand the role and function of the media in a democratic society.
(2) Understand the conditions under which media can function to their full potential.
(3) Critical evaluation of media contents according to its function.
(4) Use of the media for self-expression, intercultural dialogue and participation in democratic life.
(5) Acquire and use the skills required to produce user-generated content (including ICT).

Based on the guidelines issued by UNESCO and considering the characteristics of primary, junior and senior high school education in Japan, Japan has proposed a systematic approach to achieving the goals of information education:

(1) Practical ability to use information.

(2) The ability to understand information scientifically.

(3) Three evaluation dimensions of attitudes toward participation in the life of the information society.

Specifically, the practical ability to use information consists of:

(1) Appropriate use of information tools according to the task and purpose.

(2) Independently collect, judge, express, process and create the necessary information.

(3) Ability to transmit and communicate information based on the recipient's situation and other factors.

It is generally accepted that these three sub-dimensions are closely related to the "survival skills" of students. Information tools are an important and indispensable component of learning activities such as investigation, summarization, presentation, discussion and debate, which exemplify specific learning activities for the acquisition of basic knowledge and skills and the development of thinking, judging and expressing skills.

The ability to understand information scientifically refers to the ability to understand the characteristics of information tools that form the basis of information use, as well as to understand the basic theories and methods of appropriate handling of information, evaluation and improvement of one's information use. Under the dimension of "the ability to understand information scientifically", it is subdivided into:

(1) Understand the characteristics of information tools that form the basis of information use.

(2) Understand the basic theories and methods of handling information appropriately, evaluate and improve their own use of information.

These two subdimensions do not only require students to have an understanding of the types, mechanisms and characteristics of information tools, but also imply the need to understand the basic theories from various information-related studies, to acquire the necessary methods for the correct use of information and information tools, and to put these theories and methods into practice.

The attitude dimension of participation in the life of the information society refers to the attitude of understanding the role and influence of information and information technology in the life of society, thinking about the importance of information ethics and one's responsibility for information, and striving to participate in the creation of an ideal information society. Under this dimension, the Ministry of Education, Culture, Sports, Science and Technology breaks down:

(1) Understand the role played by information and information technology in modern society and its impact on social life;

(2) The need for information ethics and one's own responsibility for information;

(3) Willingness to participate in the creation of an ideal information society.

Objective understanding of the characteristics of information means does not guarantee the ability to use them successfully in real life. With the rapid development of information technology in society, students increasingly need to understand the positive and negative aspects of information technology and to recognize what effects these elements may have on people and society. These three sub-dimensions will guarantee that students learn how to deal with these aspects appropriately and acquire attitudes to actively participate in the information society.

Through the development of these three dimensions, students will be able to understand scientifically the role of information and information technology in society, and thus understand the problems that arise in the information society itself. In turn, the problems of the information society itself will lead to a scientific understanding of information and information technology, and to the acquisition and use of related competencies in practice. These three dimensions are organically integrated.

Evaluation Methods of Japanese High School Information Courses

Due to the unique nature of information courses, traditional evaluation methods cannot simultaneously achieve the two major goals of "improving teachers' teaching" and "improving students' learning. Therefore, MEXT has adopted the premise that "learning of course content is the basis for evaluation, and how to achieve learning of course content is the basis for evaluation criteria", and that all subjects will be evaluated from

(1) Knowledge-skills;

(2) Thinking ability - Judgment ability - Expression ability;

(3) Learning ability and humanistic literacy.

While knowledge and skills and various abilities are easier to assess in a test or in practice, learning ability and humanistic qualities, including the "attitude" dimension mentioned above, are more difficult to assess objectively. Therefore, MEXT has included the objectives to be achieved in each of these dimensions in the Guideline.

Specifically for the high school information curriculum, knowledge skills assessment, general technical knowledge can be conducted using traditional exams. In contrast, assessments such as those for more important conceptual understandings require setting up scenarios in which students can observe and experiment in specific situations. Alternatively, students can actually apply the knowledge and skills they have learned in the classroom by explaining the concepts in words, characters, equations, or icons. The assessment of thinking, judging, and expressing skills needs to be done when applying knowledge and skills to solve real-world problems. Therefore, in addition to traditional exams, discussions, reports, presentations, group discussions, work production, and demonstrations are all effective ways to assess. Classroom design becomes very important at this point. In particular, the evaluation of thinking skills is difficult to determine whether growth has occurred through a single lesson. Therefore, competency assessment should be evaluated over a longer span of time (e.g., at the beginning and at the end of the unit). Finally, the assessment of learning ability and humanistic literacy is both an assessment of students' attitudes toward learning and an overall assessment of the entire learning process. Therefore, the evaluation of learning ability and humanistic literacy must be evaluated in the lengthy process of students acquiring knowledge and skills and exercising their ability to think, judge, and express themselves. A general check of notes or assignments and class presentations may make it difficult to get a fair and objective picture of the real situation of all students in the class at the same time. Student self-evaluation can be partly useful, but it is important not to let students simply evaluate themselves as "good" or "bad," but to let them know where they stand and how they can improve. Or the change in attitude over time can be observed through changes in the evaluation of the assignment set. In short, students need to be able to learn in a targeted way with clear criteria. Once students are truly self-directed in their

learning, the part the teacher can do becomes minimal.

Evaluation Tool for Japanese High School Information Courses

In 2019, Ai GROW, a visual assessment tool for students' thinking, judging, and expression abilities through an AI engine, was developed by IGS Japan, Inc. and attracted great attention upon its release. In September 2019, the tool was selected as part of the Ministry of Economy, Trade and Industry's "Future Classroom" project. In the four years since its introduction, more than 300 Japanese high schools have introduced the tool into their teaching. Although it was not developed specifically for information courses, its strengths in testing students' non-cognitive skills and exploratory learning abilities have made it an excellent choice as an evaluation tool for information courses as they have become increasingly important. The tool has 5 main features:

(1) All tests are administered on a smartphone or tablet computer. Class time in Japan is 50 minutes for a lesson and 50 minutes for the test. In addition to regular classes, tests can be administered during long class meetings. Since it is not possible to prepare for the test, there is no need to subject students to a uniform test. Students can choose to take the test in class or at home.

(2) All-round evaluation. Tests are evaluated using mutual assessment in addition to self-assessment. Understanding the differences between these two types of assessments will help improve student confidence and help students grow faster. All 25 competencies, including performance and creativity, can be presented on a visual scale.

(3) Exclusive student profile. After completing the test, students can view their test results in real time through a personal report on the test page. In addition to the results of the personality diagnostic and aptitude measures, the personal report includes information on the competencies with high growth potential and specific recommendations on how to develop each competency. This helps students provide an objective analysis of strengths items and areas of deficiency to help with subsequent learning improvements and personal growth. In addition, as they take more and more tests, students can check their growth and keep track of the results of their efforts in real time.

(4) Class management functions. Teachers can also view students' test results from the administrator interface so that the data can be used for formative assessment

and subsequent instruction. In addition to each student's unique profile, each competency can be mapped in classes, grades and schools and grouped according to their respective developmental goals. The tool also allows for analysis through basic statistics. Since competencies and growth can be compared by grade, class and label, the tool can be used extensively to validate the effectiveness of different educational programs and to review and improve programs in light of the actual situation.

(5) Student growth opinions are summarized. According to the test results, teachers can download the opinions of "strong qualities and abilities" and "obvious qualities and abilities of growth" (the first three) of different students, which can reflect the real situation of students recently when filling in their situation in time.

Since the introduction of Ai GROW, Japanese students have improved their mutual understanding and respect for their friends in the process of evaluating each other. During integrated learning time and inquiry activities, students are able to assign tasks more clearly and speak their minds based on their friends' opinions and presentations. The educational activities conducted in Japanese schools have proven to be helpful not only in transforming students, but also in encouraging better communication among students and increasing their awareness of peer evaluation.

Conclusion

As the overall technological level continues to rise, it is increasingly important to pay more attention to the welfare of individuals. Together with the important role of information technology at the level of national governance, how to ensure that the younger generation has excellent media information literacy and bridge the gap of citizens from different background turns out to be an important and imminent issue. While countries with limited expertise and experience having difficulty in finding their own ways, Japan's success on MIL education is a qualified model on developing a system with its own characteristics based on the MIL guidelines issued by UNESCO, and there are a number of lessons to be learned from this experience for other countries.

For countries having the intention to improve their MIL education, its wise to consider starting from the following aspects: The first is to build a system of educational contents and evaluation indexes that reflect learners' media information literacy in multiple

dimensions, such as “knowledge and skills”, “scientific cognitive view” and “attitude”, to serve UN’s Sustainable Development Goals. Second, these contents should be integrated into all aspects of daily teaching in the form of learning objectives, while designing teaching for the characteristics of information courses themselves, and objectively evaluating students’ literacy and ability through different teaching scenarios and collecting diverse teaching evidence. Third, media information literacy education should run through one’s learning and life career, and media information literacy education should be studied as a sub-topic of lifelong learning. The teaching content and evaluation system should also be adjusted appropriately at any time according to the development and changes of the information society, so as to avoid the carving of a boat that will result in students’ media information literacy failing to keep up with the times.

References

Fumio Masutani, & Asako Miyasaka. (2023). *San kokuritsudai, jyouhou “haiten nashi” no riyu w a—25nen daigaku ryuugaku koutsu tesuto [The reason that 3 National University “will not grade” Information test - 2025 University Admissions Common Test]. Asahi News.* Retrieved from https://www.asahi.com/articles/ASR2V36B0R2PUSPT009.html

Grizzle, Alton, et al. (2013). *Media and information literacy: Policy and strategy guidelines.* UNESCO.

Hiromi Sasai. (2003). Medeyia riterashi kyouiku no jyuyousei [The importance of Media Literacy Education]. *Special Issue: Comprehensive Study of Media Literacy: A Lifelong Learning Perspective; Part 1: Children and Media, 132,* 61-71.

Masami Ido. (2006). Shakaikei kyouka ni okeru Medeyia riterashi [Social Studies Education for Media Literacy: Examining the Need of Media in Problem Solving]. *Social Science Education Research, 98,* 68-83.

Masami Yoshida. (2013). Kyoushi kyouiku ni okeru medeyia jyouhou riterashi Kenshu no fukyu k dadai ni tuiteno chousa [Investigation on Issues to Disseminate Media Information Literacy in Teacher Education]. *Studies on humanities and social sciences of Chiba University, 26,* 1-12.

Masataka Nakaue, & Jun Moriyama. (2021). Yunesuko no medeyia jyouhou riterashi niokeru konpitenshi gainenn no seiri [Competency Concept in UNESCO's Global Media and Information Literacy Assessment Framework]. *Annual Journal of Teacher Training Support Center Research, 4,* 111-127.

Masato Wada, et al. (2013). Yunesuko kyoushi no tame no medeyia jyouhou riterashi kyouiku karikyuramu [A Guidebook for Media and Information Literacy Curriculum for Teachers (UNESCO)]. *Journal of Tokyo Gakugeki University, 64(2),* 299-325.

Masato Wada. (2020). Medeyia riterashi kyouiku: Nihon oyobi kaigai ni okeru teigi [Media Literacy Education: Definitions in Japan and the world]. *Journal of Tokyo Gakugeki University, 71,* 581-611.

Midori Suzuki. (1998). Medeyia riterashi kyouiku to wa nanika. [What is Media Literacy?] (<Special Issue> Media Literacy). *Information Science and Technology, 48(7),* 388-395.

Ministry of Education, Culture, Sports, Science and Technology. (2018). *Koutou gakkou gakushushidou youryou (Heisei 30 nen kokuji) [Guidance for Higher Education (2018 notice)].* MEXT. Retrieved from https://www.mext.go.jp/content/20220324-mxt_kouhou02-000021499_1.pdf

Ministry of Internal Affairs and Communications. (2022). *Medeyia jyouhou riterashi koujyou shisaku no genjyou to kadaitou ni kansuru chousa kekka houkoku [Survey Results Report on The Current Status and Issues of Measures to Improve Media Information Literacy].* Ministry of Internal Affairs and Communications. Retrieved from https://www.soumu.go.jp/main_content/000820476.pdf

Naoko Nishida. (2002). Medeyia riterashi no gainen wakugumi [The Concept of Media Literacy]. *Journal of the Buddhist University Graduate School, 30,* 167-180.

Shun Sakamoto. (2020). Koronaka to medeyia jyouhou riterashi [COVID-19 pandemic and media information literacy]. *The Journal of Media and Information Literacy, 2(1),* 3-14.