

# The Most Cited Articles of Information Literacy in K-12 Education of Asia Countries from 2010 to 2019

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## ABSTRACT

*In the twenty-first century, information literacy in K-12 education is crucial; it should encourage problem-solving techniques and critical thinking abilities for learners' fundamental knowledge at all levels of education, including through scholarly publications. The purpose of this study was to examine the most cited articles in information literacy research in Asia's K-12 education from 2010 to 2019 as well as to gain a better understanding on the important themes that emerged from the study. VOSviewer was used to display data in this investigation. This study will also discuss the future possibilities of information literacy research, as specified in research publications. This study found a paper titled "Using collaborative teaching and inquiry project-based learning to help primary school students develop information literacy and information skills", published in the Library and Information Science Research, as the most cited articles (78 times). Many Asian nations that scored in the top 10 with the highest average score on the PISA 2018 such as China (Beijing, Shanghai, Jiangsu, Zhejiang) (1st), Singapore (2nd), Macao, China (3rd) do not place a strong priority on information literacy research in K-12 education. Further in-depth investigations on the reasons for the lack of priority from these nations was also suggested in the study.*

**Keywords:** Information literacy; VOSviewer; K-12; Asia countries; Most cited articles.

## INTRODUCTION

In the twenty-first century, there has been a large spread of information which contains both useful and unfavorable information. In countries where information technology is not used thoroughly, this creates a digital divide. In addition, the rapid development of information technology also collects information either related or connected, gathering them altogether for people in great abundance in the digital world. It is difficult to verify such large amounts of information as being accurate. Integrity and reliability of the information. These conditions are known as "Information overload," which refers to the condition in which a person has difficulty understanding issues and making decisions because there is too much information (Yang, C. C., H. Chen, and K. Hong. 2003). Therefore, the ability to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information (Association of College and

Research Libraries 2000) to be beneficial is important for people of all generations, especially students.

Information literacy is one of the most important learning outcomes for students and is a core competency of a person of learning, gaining national and international importance, especially since students' Information literacy is one of the 21st-century skills, comprising of information literacy, media, and technology skills (Battelle for Kids 2019). To prevent the occurrence of problems for people of all generations, such as misinformation, disinformation and partial information, information literacy should be cultivated from the primary level. There are a variety of courses to promote lifelong learning and support skills that learners lack. Teaching and learning are student-centered with the integration of various sciences. This leads to a wide and ongoing study and research on students' information literacy on various issues both in the national and international context.

The number of references is considered as one of the indicators to measure the quality of academic output, especially research articles. The number of reference databases referenced has risen recently. Web of Science, Scopus, and Google Scholar are among the most frequently reference databases. These databases differ from the conventional databases that users are accustomed to, and because each database has its own set of features and search algorithms. An articles which called "the highly-cited", "top cited paper" and "most cited paper" will reflect the influence of the research article. and help to find important researchers in each field. It would be fascinating to examine the most cited articles and to gain a better understanding of the essential themes of information literacy in Asia's K-12 education from 2010 to 2019.

## **LITERATURE REVIEW**

### **Information literacy and learning in the digital age**

Currently, it is an era in which technology has been developed continuously, especially Information and Communication Technology (ICT), and it is a significant technological change. In the education context, learners prefer to use information technology to access information more. Educational institutions, therefore, have to adjust their thinking methods for developing the media that support teaching and learning in information literacy, making them be up to date and in various forms. In other words, they must be upgraded and enhanced so that existing learning process becomes a new source of knowledge that continues to focus on cultivating and promoting lifelong learning habits, which is the development of learning methods in the future. Information technology is used to emphasize the convenience of accessing information and to create and promote self-seeking knowledge.

Information literacy skills are applicable to all disciplines, learning environments, and educational levels. It enables students to master content and broaden their investigations, become more self-directed, and take greater control of their own learning (Association of College and Research Libraries 2000). Currently in the digital world where information is increasing and disseminating from a variety of sources, it is essential for people to possess information literacy skills. The people that succeed in life will be those who know how to seek the information that meets the needs and use the information to accomplish their own goals. Information literacy fosters innovate social development for

sustainability as well as expanding the learning scope of the person throughout life. In addition, the development of information literacy skills in a person is also an important part of the development of other skills, such as decision-making, critical thinking skills, and creative thinking skills. The development of information literacy skills in a person is essential to occur throughout a person's life. Starting with the cultivation of the habit of learning and learning from childhood to old age because having information literacy skills will provide people of different ages with tools to be used in the pursuit of knowledge continuously, so it is like lifelong learning. Education or human resource related departments need to focus on developing people into quality citizens.

### **The most cited articles**

The term of "the highly-cited", "top cited paper" and "most cited paper" was used simply as a synonym of high citedness. Citing the sources used in research serves many purposes; for example, Calvin T. Ryan Library (2020) mentioned the importance of citing sources; it gives proper credit to the authors of the words or ideas in the researcher's paper. It allows readers who read that research to locate sources in order to learn more. Most importantly, citing sources consistently and accurately helps researchers avoid committing plagiarism in their writing. For citation, the citation qualification has several scholars, for instance, Kostoff, Barth, and Lau (2008) reported The metric used to gauge quality is the ratio of highly cited papers to total papers produced in sequential time frames. H-index is an index that is created to measure the productivity and impact of the work of a researcher, institution or country. Levitt and Thelwall (2009) mentioned highly cited articles are associated with high-quality research.

There are many articles containing highly cited articles from various fields. Several papers have analyzed highly cited papers belonging to category of library and information science. For instance, Blessinger and Hrycaj (2010) discussed and compared the majority of scholarly articles published in LIS during between 1968 and 2000 in different context. Ivanović and Ho. (2016) identified 501 highly cited articles published between 1956 and 2009 in 37 journals and analyzed the characteristics of highly cited articles published in the Information Science and Library Science category in the Social Science Citation Index. Elia and Sife (2018) analyzed top 10 cited papers in the field of library and information science which originated from 10 different institutions from six countries by google scholar, metrics was carried out to understand their main characteristics and features such as bibliographic details, authorship collaboration, author affiliation, citation counts and specialty. These most cited articles were published in 2006 and the list was released in June 2017.

While several academic research analyzed research articles in various library and information science categories that have been published in these areas, no analyses have been published of articles in the information literacy in K-12 Education of Asia countries, the subject of the current paper. The purpose of this study was to examine the most cited articles and to gain a better understanding of the essential themes of information literacy in Asia's K-12 education from 2010 to 2019. The research questions arranged in this study are listed below:

- What are the most cited articles in the information literacy research in K-12 education of Asia countries from 2010 to 2019?

- Among the most cited articles from 2010 to 2019, how about distribution of the most cited articles published in journals?
- What are the popular keywords used the most cited articles between 2010 to 2019?

## METHOD

### Article selection process

To examine the most cited articles and to gain a better understanding of the essential themes of information literacy in Asia's K-12 education from 2010 to 2019. The search string to be used for collecting the data related information literacy and K-12 selected information literacy research in K-12 of Asia countries from 2010 to 2019 which indexed the Scopus database. Results were refined by selecting the category; language=English, document type=articles, country/territory=Asia countries (41 documents). In this study, the criteria for selecting most cited articles were selected articles based on a h-index = 8 (of the 41 documents considered for the h-index, 8 have been cited at least 8 times). A final 12 articles which contained the top eight cited documents were obtained and used for this study to analysis and discuss. The retrieved data were imported, modified, and coded in each context into Microsoft Excel. Finally, data were inputted from .csv file and analyzed with Scopus database, which were then presented by the VOSviewer program for data visualization. The article selection process for this study as shown in Figure 1.

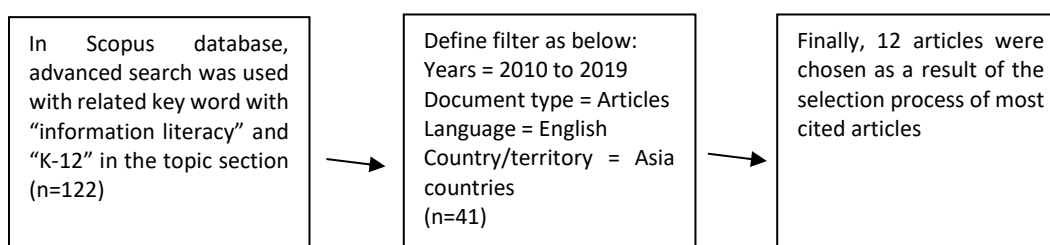


Figure 1: Article selection process for this study

### Coding schemes

Several previous review articles, including Hwang and Tsai (2011), Wu et al. (2012), Hwang and Wu (2014), and Tu et al., (2018) were used to classify the articles. Furthermore, the coding schemes were evaluated and modified by two experienced library science experts, as detailed below.

- Sample group: the research sample groups were divided into nine groups: elementary school students, junior high school students and senior high school students, teachers, mix-group, non-specified, no participants, others, and institution/organization.
- Research methods: The research methods categories proposed by McMillan and Schumacher (2006) were used in this study. The coding scheme is quantitative, qualitative, mixed, and analytical methods.
- Research domains: Science (including physics, chemistry and biology), mathematics, arts, language, social studies (including history), engineering (including computers,

computer science), health, medical and physical education (motor skills), business or management, information science, mixed course, none, and general subject were the research domains identified in the literature. None subject means that the article only included (e.g. model (trend) proposed), system design, survey or review paper).

### **Data analysis**

The data analysis procedure was conducted by two experienced library science experts which collaborate to studied and discussed the data together during the content analysis process. This study uses the VOSviewer program to create a data visualization and present data visualization of the most used popular keywords. And divided clusters from keywords used in the most cited articles in information literacy research in K-12 education of Asia countries from 2010 – 2019.

## **RESULTS**

### **The most cited articles in information literacy research in K-12 education from 2010 – 2019**

Between 2010 – 2019, there are 41 articles in information literacy research in K-12 education of Asia countries (Hunsapun and Chen, 2020). Focus on the most cited articles found 12 articles were the most cited documents as shown in Table 1. However, no papers with cited papers in 2012 and 2019.

From all the publications under this study, the 12 most cited articles were identified. It was found that 251 papers had been cited at least once. H-index of this study is 8 (of the 41 documents considered for the h-index, 8 have been cited at least 8 times). The h-index is computed in Scopus, and finding articles is a popular topic; in fact, a previous article about the h-index is still one of the most popular articles. Three papers have been cited more than 30 times each. Of these 12 most cited articles, 4 were published by the researchers in Taiwan and included in the Scopus database, followed by Hong Kong (2 articles). China, Indonesia, Iran, Israel, Malaysia, and Singapore published 1 article. A paper titled “Using collaborative teaching and inquiry project-based learning to help primary school students develop information literacy and information skills”, published in the Library and Information Science Research, is the most cited articles (78 times). The top three of most cited articles of information literacy research in K-12 education during 2010-2019 are: Chu S.K.W., Tse S.K., Chow K. (cited =78), Li S.C., Pow J.W.C., Wong E.M.L., Fung A.C.W (cited = 36), Chang F.-C., Chiu C.-H., Chen P.-H., Miao N.-F., Lee C.-M., Chiang J.-T., and Pan Y.-C. (cited = 30).

Table 1: Characteristics of the most cited articles in information literacy research in K-12 education of Asia countries from 2010 to 2019

Rank	Authors	Title	Publication Year	Country/territory	Totals of citation
1	Chu S.K.W., Tse S.K., and Chow K.	Using collaborative teaching and inquiry project-based learning to help primary school students develop	2011	Hong Kong, China	78

		information literacy and information skills			
2	Li S.C., Pow J.W.C., Wong E.M.L., and Fung A.C.W.	Empowering student learning through Tablet PCs: A case study	2010	China	36
3	Chang F.-C., Chiu C.-H., Chen P.-H., Miao N.-F., Lee C.-M., Chiang J.-T., and Pan Y.-C.	Relationship between Parental and Adolescent eHealth Literacy and Online Health Information Seeking in Taiwan	2015	Taiwan	30
4	Chang F.-C., Miao N.-F., Lee C.-M., Chen P.-H., Chiu C.-H., Lee S.-C.	The association of media exposure and media literacy with adolescent alcohol and tobacco use	2016	Taiwan	29
5	Wijaya A.	Students' information literacy: A perspective from mathematical literacy	2016	Indonesia	21
6	Foo S., Majid S., and Chang Y.K.	Assessing information literacy skills among young information age students in Singapore	2017	Singapore	12
7	Dorner D.G., and Gorman G.E.	Contextual factors affecting learning in Laos and the implications for information literacy education	2011	Malaysia	11
8	Liu E.Z.-F., Ho H.C., and Song Y.J.	Effects of an online rational emotive curriculum on primary school students' tendencies for online and real-world aggression	2011	Taiwan / Hong Kong	11
9	Sakai Y.	The role of readability in effective health communication: An experiment using a Japanese health information text on chronic suppurative otitis media	2013	Japan	8
10	Chen L.C., Chen Y.-H., and Ma W.-I.	Effects of integrated information literacy on science learning and problem-solving among seventh-grade students	2014	Taiwan	8
11	Ash-Argyle R., and Shoham S.	Professional self-efficacy and role perception of school librarians and their impact on the development of students' information literacy: An evidence-based study	2014	Israel	8
12	Baji F., Bigdeli Z., Parsa A., and Haeusler C.	Developing information literacy skills of the 6th grade students using the Big6 model	2018	Iran	8

Source: Scopus database updated on 26 April 2021

Different researcher/authors who are publishing papers in a given subject are displayed in this co-authorship map. The size of the circles correlates to each author's number of publications in the publication list. The results show 5 authors linkages between the circles indicate co-authorships in articles as show in figure 2.

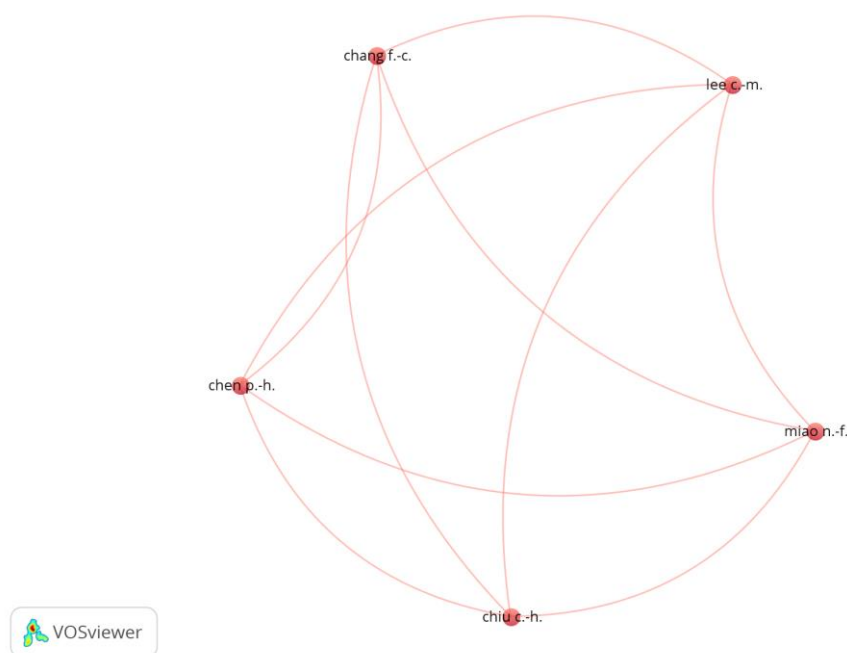


Figure 2: Co-authorship map with most cited articles in information literacy research in K-12 education from 2010 -2019 of Asia countries

### Distribution of research journals

From 2010 – 2019, Malaysian Journal of Library and Information Science is the top journals published in information literacy research in K-12 education (2 articles). Another ten journals are published 1 articles as shown in Table 2.

Table 2: Overview of journal from 2010 to 2019

Journal	Number of articles
Malaysian Journal of Library and Information Science	2
Aslib Journal of Information Management	1
Journal on Mathematics Education	1
Journal of Health Psychology	1
Cyberpsychology, Behavior, and Social Networking	1
Journal of Information Literacy	1
Health Information and Libraries Journal	1
Turkish Online Journal of Educational Technology	1
Information Research	1
Library and Information Science Research	1
Education and Information Technologies	1

### Distribution of sample group

As shown in figure 3, from 2010 – 2019, top sample group discussed in information literacy research in K-12 education studies are elementary school (4 articles), senior high school groups, mixed group, and others (2 articles), and junior high school (1 articles). When dividing the five years’ period, journals articles from 2010 – 2014, top sample group discussed in information literacy research in K-12 education studies are elementary school, and others (2 articles). In journals articles from 2015 – 2019, top sample group discussed in information literacy research in K-12 education studies are elementary school (2 articles). It can be seen that elementary schools receive the most academic attention and discussion through academic articles. In the other groups, however, they are not getting the attention they deserve.

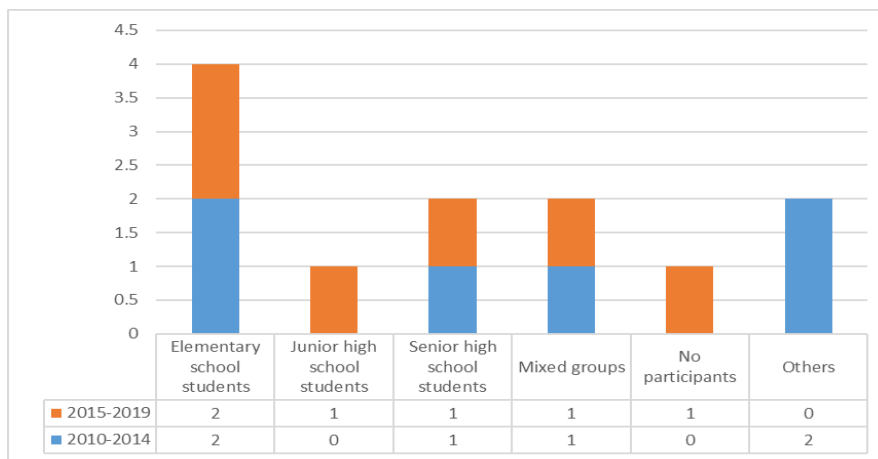


Figure 3: sample group of information literacy research in K-12 education from 2010 - 2019 of Asia countries

### Distribution of research methods

Quantitative method is the most common research method that is used to study 8 articles, followed by Quantitative method, and Mix method (2 articles). Dividing the five years’ period, in 2010 – 2014 quantitative method is the most common research methods used to study the 4 articles as well as the 4 articles in 2015 – 2019 as shoen in figure 4.



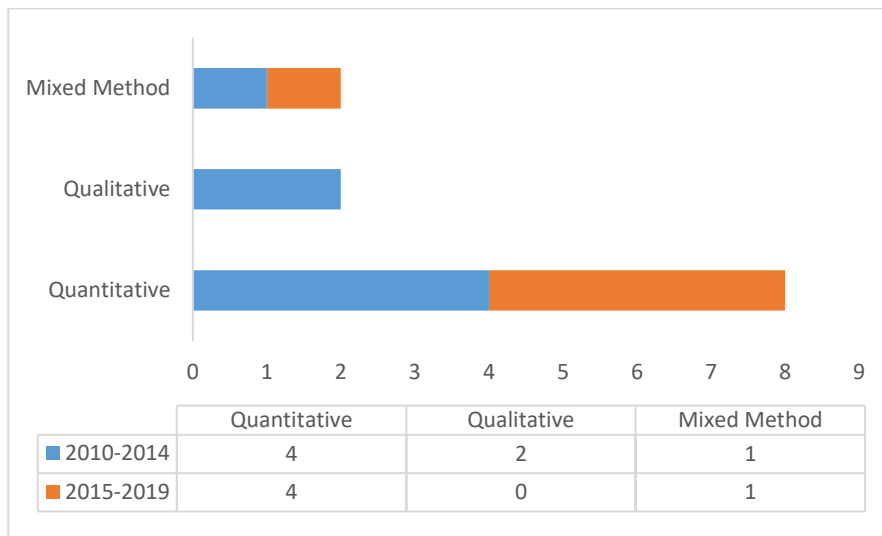


Figure 4: research methods in information literacy research in K-12 education

### Distribution of research domains

General objects are the most research domains discussed (5 articles). A lot of research domains not discussed by researcher, for instance Arts, Language, Social studies (including history), Business or Management, Across-disciplines (e.g STEM), Mixed courses, and None (e.g. model (trend) proposed), system design, survey or review paper) as shown in figure 5.

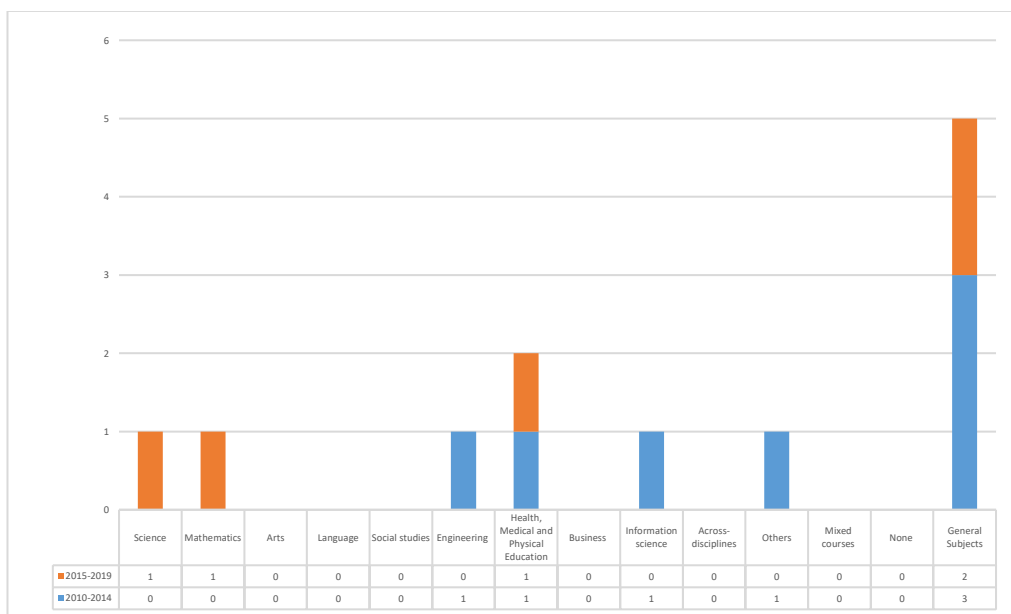


Figure 5: research domain in information literacy research in K-12 education from 2010 - 2019 of Asia countries

### **Distribution of most popular keywords and clusters**

To determine most popular keywords in information literacy research in K-12 education from 2010 -2019 of Asia countries, the current study utilized VOSviewer to analysis keywords and group similar keywords between articles. A total of 45 keywords were provided by authors in the 12 articles that were collected in this study. The top keywords are information literacy (frequency=5). Another keywords frequency is one, for instance big 6, continuing professional development, elementary schools, professional self-efficacy, high schools, and school librarians etc. Based on VOSviewer analysis, the 45 keywords were divided into three groups, which are presented by difference colors. The largest set of connected items consist 25 items as shown in figure 6.

In group 1 red color, the main relationship was the integration of the different of K-12 education into information literacy education. The keywords in this group include big 6 (frequency = 1), continuing professional development (frequency = 1), elementary schools (frequency = 1), high schools (frequency = 1), primary schools (frequency = 1), professional self-efficacy (frequency = 1), reference work (frequency = 1), research processes (frequency = 1), role perception (frequency = 1), school librarians (frequency = 1), secondary schools (frequency = 1), and students (frequency = 1). For example, Ash-Argyle, R., and Shoham, S. (2014) evaluated the degree to which school librarians are involved in two different dimensions of their work that directly relate to developing information literacy and examined factors that may affect the degree of involvement in these two dimensions. This analysis reveals that school librarians primarily provide basic reference work services, which necessitate a low level of professional and technological skills and little collaboration with school teachers. Similarly, school librarians are mainly involved with two specific stages of the students' research processes, namely, the seeking and evaluation of information, which again reflect a low degree of IL training.

In group 2 green color, the main relationship was the integration of information technology and international standard assessment in to information literacy research in K-12 education. The keywords in this group include information literacy (frequency = 5), ICT in education (frequency = 1), mathematical literacy (frequency = 1), program for international standard assessment (frequency = 1), and tablet pc (frequency = 1). For example, Li, S. C., Pow, J. W. C., Wong, E. M. L., and Fung, A. C. W. (2010) integrate ICT in education to empowering student using Tablet PCs to support teaching and learning in a primary school in Hong Kong, and provide insights into how schools can harness and capitalize on the opportunities offered by emerging technologies. Wijaya, A. (2016) explored students' information literacy from the perspective of mathematical literacy. According to the findings of this study, students did not acquire three aspects of information literacy: recognizing information needs, locating and evaluating the quality of information, and making effective and ethical use of information. This result indicates that students have a low level of information literacy.

In group 3 blue color, the main relationship was the integration of the use learning assessment into information literacy research in K-12 education. The keywords in this group include assessment (frequency = 1), grade 5 (frequency = 1), i-competent model (frequency = 1), and primary students (frequency = 1). For example, Foo, S., Majid, S., and Chang, Y. K. (2017) assessed knowledge of Singapore Grade 5 (11 years old) students' understanding and proficiency in basic information literacy (IL) skills of defining

information tasks, selecting information sources, seeking information from sources and synthesizing and using information. They discovered that students struggled with identifying key information from an information task narrative, comprehending the use of reference sources and the role of librarians, distinguishing between fact and opinion, and selecting the best search strategy.

In group 4 yellow color, the main relationship was the integration of learning strategies into subject area related to information literacy. The keywords in this group include big 6 model (frequency = 1), comprehension memory (frequency = 1), inquiry learning (frequency = 1), and problem-solving (frequency = 1). For example, Liu, E. Z. -, Ho, H. C., and Song, Y. J. (2011) investigated the effects of integrating information literacy into science instruction on students' science learning and problem solving, between inquiry-based science curriculum infused with information literacy using the Big6 model and traditional lecture oriented instruction. This study's findings confirm that incorporating information literacy into regular curriculum using the Big6 model is feasible in school settings. The instructional time spent on integrated instruction was beneficial to subject content learning. Baji, F., Bigdeli, Z., Parsa, A., and Haeusler, C. (2018) evaluates an information literacy intervention in Iranian 6<sup>th</sup> grade science classroom. They found integrating the Big 6 model into the primary science curriculum helps the students to improve their information literacy skills as well as gain a deeper understanding of the research process.

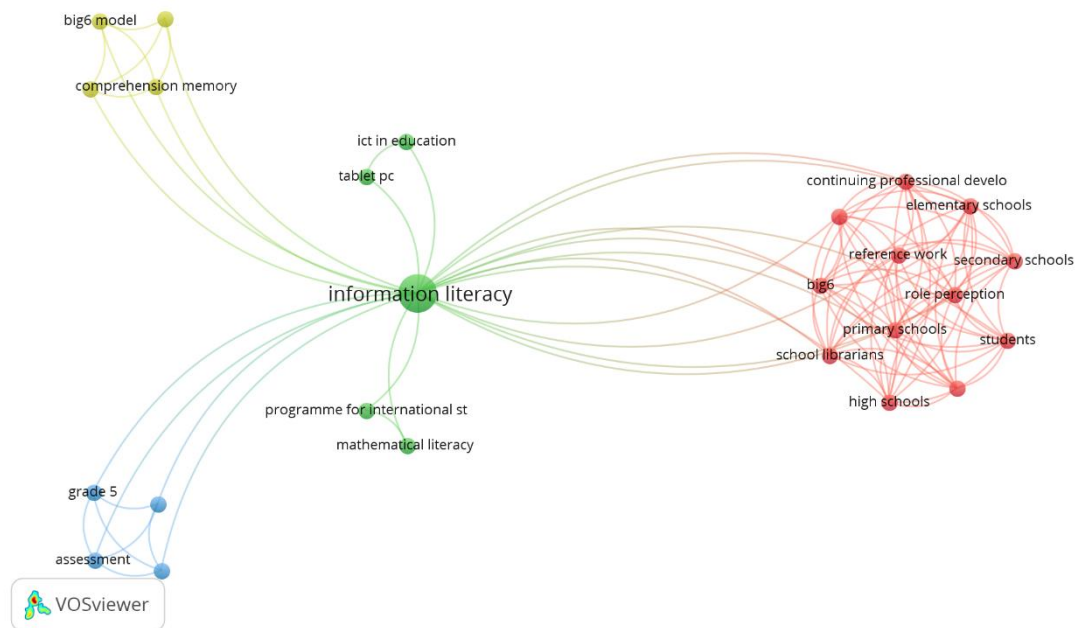


Figure 6: Co-occurrence map of keywords by authors

## CONCLUSION

As the results, the top three countries that had the most published article journal in Scopus database in 2010 -2019, which are: Taiwan (4 articles) paper that focused on elementary schools and used quantitative method. Taiwan realized the importance of

information literacy in K-12 education. However, a study by Chen and Tu (2020) examined K-12 information literacy research in Taiwan. It showed K-12 information literacy research has decreased in the past ten years. A paper titled "Using collaborative teaching and inquiry project-based learning to help primary school students develop information literacy and information skills" published in the *Library and Information Science Research* in 2011, is also the most cited (78 times). This study has researcher cited this paper continuously. While some paper didn't have any citation more than four years, for instance, "Information literacy for the information literate: A model and case study from the Wuhan UNESCO training the trainers in information literacy program" by Pagell R.A. and Munoo R. (2010), "Civic action-oriented information literacy curriculum: An example of sixth-grade "US-Taiwan Eco-campus partnership program"" by Chen L.C., Shen K.-C., and Lai H.-C. (2016), "The analysis on the learning outcomes of elementary students in smart education" by Park I.-S., and Hwang J.-H. (2016).

According to Scopus database, it showed China, Singapore, Iran, Israel, and Malaysia published 1 article in 2010 – 2019. An interesting and surprising fact is that many Asia countries which ranked in the top 10 with the highest average score on the PISA 2018; China (Beijing, Shanghai, Jiangsu, Zhejiang) (1<sup>st</sup>), Singapore (2<sup>nd</sup>), Macao, China (3<sup>rd</sup>) not much focus on information literacy research in K-12 education. The researcher is of the view that further in-depth studies in these countries should be conducted in the area of information literacy research in K-12 education of the disregarded causes.

The top twelve authors who are the most cited authors, their research focus on was on junior high schools and used quantitative method. Many studies have shown that students from primary school to postgraduate level lack critical information literacy and IT skills, so there is a need for an effective pedagogical approach that will develop these skills, according to Chu S.K.W., Tse S.K., and Chow K. (2011). The purpose of this study was to see how combining a collaborative teaching approach with inquiry project-based learning (PjBL) affected the development of primary students' information literacy and IT skills. Two inquiry-based group projects were completed by students in a Hong Kong primary school. In guiding students through the two projects, a collaborative teaching approach involving three teachers from different subject areas (general studies, Chinese, and IT) and the school librarian was used. According to the findings, this program had a positive impact on the development of various dimensions of the students' information literacy and IT skills. Information literacy research in K-12 education should use qualitative methods because they are exploratory; they seek to uncover respondents' opinions, thoughts, and feelings. It is most commonly used to provide context for new concepts, theories, and results. At the moment, the qualitative method is widely used to obtain more in-depth and insightful information from a sample group.

## REFERENCES

- Aksnes, D. W., L. Langfeldt, and P. Wouters. 2019. "Citations, Citation Indicators, and Research Quality: An Overview of Basic Concepts and Theories." *SAGE Open* 9 (1). doi:10.1177/2158244019829575.
- Aksoy, D., B. Cevik, V. Solmaz, and S. G. Kurt. 2014. "Clinical, Demographic and Prognostic Features of Sporadic Amyotrophic Lateral Sclerosis in Northern Turkey."

- International Journal of Neuroscience* 124 (1): 68-73.  
doi:10.3109/00207454.2013.823605.
- Ash-Argyle, R. and S. Shoham. 2014. "Professional Self-Efficacy and Role Perception of School Librarians and their Impact on the Development of Students' Information Literacy: An Evidence-Based Study." *Journal of Information Literacy* 8 (2): 118-140. doi:10.11645/8.2.1894.
- Association of College and Research Libraries. 2000. *Information Literacy Competency Standards for Higher Education*. Chicago: Association of College and Research Libraries.
- Baji, Fatima, Zahed Bigdeli, Abdullah Parsa, and Carole Haeusler. 2018. "Developing Information Literacy Skills of the 6th Grade Students using the Big6 Model." *Malaysian Journal of Library and Information Science* 23 (1): 1-15. doi:10.22452/mjlis.vol23no1.1.
- Battelle for Kids. 2019. "Framework for 21st Century Learning." [http://static.battelleforkids.org/documents/p21/P21\\_Framework\\_DefinitionsBFK.pdf](http://static.battelleforkids.org/documents/p21/P21_Framework_DefinitionsBFK.pdf)
- Blessinger, K. and P. Hrycaj. 2010. "Highly Cited Articles in Library and Information Science: An Analysis of Content and Authorship Trends." *Library and Information Science Research* 32 (2): 156-162. doi:10.1016/j.lisr.2009.12.007.
- Chang, Fong-Ching, Chiung-Hui Chiu, Ping-Hung Chen, Nae-Fang Miao, Ching-Mei Lee, Jeng-Tung Chiang, and Ying-Chun Pan. 2015. "Relationship between Parental and Adolescent eHealth Literacy and Online Health Information Seeking in Taiwan." *Cyberpsychology, Behavior, and Social Networking* 18 (10): 618-624. doi:10.1089/cyber.2015.0110.
- Chang, Fong-ching, Nae-fang Miao, Ching-mei Lee, Ping-hung Chen, Chiung-hui Chiu, and Shu-ching Lee. 2016. "The Association of Media Exposure and Media Literacy with Adolescent Alcohol and Tobacco use." *Journal of Health Psychology* 21 (4): 513-525. doi:10.1177/1359105314530451.
- Chen, Lin Ching, Yaw-Huei Chen, and Wen-I Ma. 2014. "Effects of Integrated Information Literacy on Science Learning and Problem-Solving among Seventh-Grade Students." *Malaysian Journal of Library and Information Science* 19 (2): 35-51.
- Chu, Samuel Kai Wah, S.K. Tse, and Ken Chow. 2011. "Using Collaborative Teaching and Inquiry Project-Based Learning to Help Primary School Students Develop Information Literacy and Information Skills." *Library and Information Science Research* 33 (2): 132-143. doi:10.1016/j.lisr.2010.07.017.
- Dorner, D. G. and G. E. Gorman. 2011. "Contextual Factors Affecting Learning in Laos and the Implications for Information Literacy Education." *Information Research* 16 (2).
- Elia, E. F. 2018. "Analysis of top cited papers in library and information science that have stood the test of time." *University of Dar es Salaam Library Journal* 13(1): 54-68
- Foo, S., S. Majid, and Y. K. Chang. 2017. "Assessing Information Literacy Skills among Young Information Age Students in Singapore." *Aslib Journal of Information Management* 69 (3): 335-353. doi:10.1108/AJIM-08-2016-0138.
- Hirsch, J. E. 2005. "An index to quantify an individual's scientific research output." *Proceedings of the National Academy of Sciences* 102 (46): 16569-16572. doi:10.1073/pnas.0507655102
- Hunsapun, N., C. -C Chen. 2020. "Research Trend of K-12 Information Literacy of Asia Countries from 2010 to 2019". In *Proceedings of 2020 KLISS/3rd ILISS International Conference, Kongju National University, Korea* (November 23, 2020, virtual), 341 – 360.

- Hwang, G. -J and C. -C Tsai. 2011. "Research Trends in Mobile and Ubiquitous Learning: A Review of Publications in Selected Journals from 2001 to 2010." *British Journal of Educational Technology* 42 (4): E65-E70. doi:10.1111/j.1467-8535.2011.01183.x.
- Hwang, G. -J and P. -H Wu. 2014. "Applications, Impacts and Trends of Mobile Technology-Enhanced Learning: A Review of 2008-2012 Publications in Selected SSCI Journals." *International Journal of Mobile Learning and Organisation* 8 (2): 83-95. doi:10.1504/IJMLO.2014.062346.
- Ivanović, D. and Y. -S Ho. 2016. "Highly Cited Articles in the Information Science and Library Science Category in Social Science Citation Index: A Bibliometric Analysis." *Journal of Librarianship and Information Science* 48 (1): 36-46. doi:10.1177/0961000614537514.
- Kostoff, R. N., R. B. Barth, and C. G. Y. Lau. 2008. "Quality Vs. Quantity of Publications in Nanotechnology Field from the People's Republic of China." *Chinese Science Bulletin* 53 (8): 1272-1280. doi:10.1007/s11434-008-0183-y.
- Levitt, J. M. and M. Thelwall. 2009. "The most Highly Cited Library and Information Science Articles: Interdisciplinarity, First Authors and Citation Patterns." *Scientometrics* 78 (1): 45-67. doi:10.1007/s11192-007-1927-1.
- Li, Sandy C., Jacky W. C. Pow, Emily M. L. Wong, and Alex C. W. Fung. 2010. "Empowering Student Learning through Tablet PCs: A Case Study." *Education and Information Technologies* 15 (3): 171-180. doi:10.1007/s10639-009-9103-2.
- Liu, Eric Zhi-Feng, H. C. Ho, and Y. J. Song. 2011. "Effects of an Online Rational Emotive Curriculum on Primary School Students' Tendencies for Online and Real-World Aggression." *Turkish Online Journal of Educational Technology* 10 (3): 83-93.
- McMillan, James H. and Sally Schumacher. 2006. *Research in Education: Evidence-Based Inquiry*. Pearson: Boston, MA.
- Tu, Yun-Fang and Gwo-Jen Hwang. 2018. "Trends of Library-Associated Mobile Learning Based on a Review of Academic Studies Published from 2007 to 2016." *Electronic Library* 36 (5): 875-891. doi:10.1108/EL-06-2017-0138.
- Tu, Yun-Fang and Gwo-Jen Hwang. 2020. "Trends and Research Issues of Mobile Learning Studies in Hospitality, Leisure, Sport and Tourism Education: A Review of Academic Publications from 2002 to 2017." *Interactive Learning Environments* 28 (4): 385-403. doi:10.1080/10494820.2018.1528285.
- University of Nebraska Kearney. 2020. "Identifying Parts of a Citation: Why Citing Sources is Important." <https://guides.library.unk.edu/c.php?g=710678>
- Wijaya, A. 2016. "Students' Information Literacy: A Perspective from Mathematical Literacy." *Journal on Mathematics Education* 7 (2): 73-82. doi:10.22342/jome.v7i2.3532.
- Wu, Wen-Hsiung, Yen-Chun Jim Wu, Chun-Yu Chen, Hao-Yun Kao, Che-Hung Lin, and Sih-Han Huang. 2012. "Review of Trends from Mobile Learning Studies: A Meta-Analysis." *Computers and Education* 59 (2): 817-827. doi:10.1016/j.compedu.2012.03.016.
- Yang, Christopher C., Hsinchun Chen, and Kay Hong. 2003. "Visualization of Large Category Map for Internet Browsing." *Decision Support Systems* 35 (1): 89-102. doi:10.1016/S0167-9236(02)00101-X.