Understanding the Curation Service in Libraries: Is it a Revolution or an Evolution of Reference Service?

도서관에서 큐레이션 서비스에 대한 이해: 참고서비스의 혁신인가? 진화인가?

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┌─────────────────────── 〈Contents〉 ───────────────────────┐

Ⅰ. Introduction
Ⅱ. Library reference service: the origin, development, and issues
Ⅲ. Curation service: the origin and applications
Ⅳ. Curation service: its relationship with library reference service
Ⅴ. Curation services in libraries: some practical implications
Ⅵ. Conclusion

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ABSTRACT

Popularly known to be originated in museums and art galleries, curation is widely applied in many other fields ranging from curation commerce to curated databases by today. Libraries also have started to provide different types of curation services such as data curation, digital curation, content curation, book curation, and social curation. However, the relationship between the curation service and the library service is not adequately studied and documented. The objective of this paper is to address that gap by analyzing the relationship between curation service and the library service. Particularly, this paper pays attention to study the relationship between curation service and library reference service. The research methods used by this study were an extensive literature review followed by some carefully selected real-world examples of curation services in libraries and other fields. The authors have analyzed and documented the origin and the meaning of two concepts, the challenges faced by library reference service, and the applicability of curation as a modest form of library reference service in the 21st-century. Based on the study findings, this paper concludes that curation service is not a new concept for the library but a natural evolution of the library reference service in response to the changing information environment and user expectations in the digital age.

Keywords: Curation, Curation Service, Information Services, Libraries, Reference Service

초 록

박물관과 미술관에서 유래된 것으로 잘 알려진 큐레이션은 오늘날 큐레이션 커머스에서 큐레이션 데이터베이스까지 다양한 다른 분야에서 널리 적용되고 있다. 도서관도 데이터 큐레이션, 디지털 큐레이션, 콘텐츠 큐레이션, 북 큐레이션, 소셜 큐레이션 등 다양한 형태의 큐레이션 서비스를 제공하기 시작했다. 그러나, 큐레이션 서비스와 도서관 서비스의 관계는 적절히 연구되지 않았다. 본 논문의 목적은 큐레이션 서비스와 도서관 서비스의 관계를 분석함으로써 두 서비스의 이질감을 해소하는 것이다. 특히 이 논문은 큐레이션 서비스와 도서관 참고서비스의 관계에 주목한다. 본 연구에서는 연구목적 달성을 위해 광범위한 문헌 검토와 몇 가지 실제 사례를 살펴 보았다. 본 연구에서는 21세기 도서관 참고서비스가 직면한 과제와 큐레이션의 적용가능성, 두 개념의 유래와 의미를 분석하고 비교해보았다. 그 결과, 본 논문은 큐레이션이 도서관의 새로운 개념이 아니라 변화하는 정보환경과 이용자 요구에 대응한 도서관 참고서비스의 자연스러운 진화라고 제안한다. 게다가 도서관은 디지털 시대의 정보 환경의 변화 및 이용자 기대 변화에 대응하기 위하여 큐레이션 서비스를 혁명으로 생각하지 않고 도서관 참고서비스의 자연스러운 진화임을 인식해야 한다고 결론짓고 있다.

키워드: 큐레이션, 큐레이션 서비스, 도서관, 정보서비스, 참고서비스

Ⅰ. Introduction

This paper sets out to analyze the relationship between the concepts of curation service and library reference service, establishing their connection and their points in common based on well-established findings in the academic literature as well as on real-world examples on the two concepts. The authors argue that the two concepts are closely linked. As often happens in any relationship between newly emerging concept (curation service) and a concept that comes from a long-standing academic and professional tradition (reference service), the relationship between two is marked by fuzziness, uncertainty, and misunderstanding.

By arguing that two concepts are closely linked, this paper aims to facilitate the conceptual clarification for the advancement of the discipline. At the same time, this paper intends to provide theoretical and practical implications for those who are planning to implement curation services in their libraries. For that purpose, this paper first defines the two concepts including their origin, meaning, and development before moving into the next part of the article that discusses how these two concepts correspond each other with the support of real-world examples and practical suggestions.

Ⅱ. Library reference service: the origin, development, and issues

Defined as the personal assistance provided by librarians to the users in the pursuit of information (Bunge 1999; Hutchins 1944; Rothstein 1961), reference service has been considered as the heart of the library service for a long time. It has emerged in the public and academic libraries in the USA in the mid-19th century in the form of 'aid to readers' and 'library instruction' (Rothstein 1953; 1955; Tyckoson 2003; Weiss 2003). The birth of reference service can be considered as a response to the complexities of the information environment at that time (Katz 2002; Janes 2003). Curation service emerged with the aim of aiding and educating users on how to use the library and its resources and how to find information within those resources. In 1876, Samuel S. Green suggested that the reference librarian will perform four basic functions

as follows (Tyckoson, 2001; 2003, and redacted by authors).

(ⅰ) Instructing patrons how to use the library and its resources;

(ⅱ) Assisting the patron with his queries;

(ⅲ) Aiding the patron in the selection of good works; and

(ⅳ) Promoting the library within the community.

Tyckoson (2003) observes that Green's four functions of reference service can be considered as core functions of reference service even today. However, the information environment has undergone numerous changes and developments in the recent past (Rainie 2009). In parallel with the above changes and developments in the information environment, the information seeking behavior of library users of the digital age has substantially changed from the previous ages. A number of studies and user surveys have reported those changes as follows. The new generation of library users highly values the ability to find information on their own and appreciate that the library facilitates the process rather than approaching librarians for direct support (Association of Research Libraries 2018). Users in the digital age demonstrate 'horizontal information seeking', a form of 'skimming' activity where they view just one or two pages and then 'bounce' out (Rowlands et al. 2008). Young people are lack of critical and analytical skills to assess online information. They prefer quick information in the form of easily digested chunks, rather than full-text. However, users in the digital age highly value 'recommendation' services due to the abundance of information and some of them merely rely on the recommendations of their peers in information seeking (Tella 2016). The new generation of library users prefer 'personal service' and their interest and alertness to the 'ready information' have grown (Rainie 2009). They find peers more credible as information sources than authoritative figures (Rowlands et al. 2008). The key characteristic of library users in the digital age is the desire to get synthesized information conveniently using the least effort (Tella 2016). So they commonly choose the Internet based on its perceived convenience of use rather than the quality of its content. Users prefer online resources over libraries and the use of online information sources has increased (Online Computer Library Center 2010). Search engines dominate among the list of frequently used electronic sources to find online content. Trustworthiness and accuracy are cited as the most critical criteria for determining which information sources are to be used, followed by ease of use and speed

of information sources. Users apply their personal knowledge and common sense to determine the credibility of online information sources. A large number of users begin their information searches with search engines (Online Computer Library Center 2005). Reasons for preferring search engines are speed, convenience, reliability and ease of use. Survey findings reveal a decline in the use of library Web sites, electronic journals, and online databases. Virtually none of the users surveyed had started their information seeking on the library Web sites.

These changes and developments have affected library reference service in many ways. As a result of the increasing popularity of the Internet as an information source, as well as the increasing popularity of search engines as retrieval tools, reference transactions in libraries were declined sharply. A number of studies have reported this phenomenon (Applegate 2008; Association of Research Libraries 2018; Canadian Academic and Research Libraries 2016; Lederer and Feldmann 2012; Scales, Turner-Rahman and Hao 2015). For example, the Association of Research Libraries (2018) Statistics Center clearly shows a decline in reference transactions (4.5 percent average annual decline) during 1991–2005. The 2015-16 results of the Statistical Survey of Canadian Academic and Research Libraries (2016) documented declines in reference transactions over a decade. Washington State University's (WSU) Pullman Campus librarians also reported that the number of average monthly questions answered at the reference desk was declined between 2012 and 2013. As early as 1986, some scholars such as Barbara J. Ford (1986) even suggested the elimination of the reference desk. Lederer and Feldmann (2012) reported that some universities have abandoned the reference desk, and replaced it with other models of patron assistance. Applegate (2008) described the phenomenon of declining reference transactions in American academic libraries as the beginning of a 'deserted library'. The downturn in use of traditional academic reference services and the sharp decline of reference transactions (both regular reference desk and virtual reference transactions) was described by Coffman (2012) as a 'decline of the library empire'.

The above study findings indicate that 21st-century users do not consider the library as the center of the information environment. They rely more on networked information systems such as the Internet over the library. However, these findings do not indicate that reference service is unnecessary in the digital age. Some of the above studies (Online Computer Library Center

2010; Tella 2016) have revealed that, even in the digital age, still users need the help and guidance of librarians to find and evaluate information, due to the abundance of information and disinformation. For example, the Online Computer Library Center Report (2010) indicates that nearly one-third of college students have started their information search with a search engine and ended up at a library Web site. Although they use personal knowledge and common sense to determine the credibility of online information sources, if they are in doubt, they will cross-reference with other sites or sources. Interestingly, when cross-referencing information sources, more than half of respondents use library materials and about one-fourth of respondents use a librarian. More students indicated that information from library sources is more trustworthy than from search engines. They believe the library as a trustworthy and accuracy agent. College students determine the trustworthiness of information through a recommendation from a trusted source. For that purpose, eleven percent (11%) of them use library materials and five percent (5%) consult librarians. Over three-quarters (78%) of college students agree librarians add value to the search process. Most of them are very satisfied with the information, service and overall experience with librarians than they are with search engines (Online Computer Library Center 2010). On the other hand, users in the digital age highly value recommendation and personalized services to overcome the problems created by the abundance of information (Tella 2016).

These findings indicate that users in the digital age still value the services provided by reference librarians. However, reference service has to identify their users' changing expectations and aspirations and come out with service models that can better serve them. As the Online Computer Library Center Report (2005) concluded, today's library users want the library service to fit their lifestyle and not vice versa. Therefore, reference service in the new millennium has to adopt innovative service models in order to help and guide these users in their journey of information seeking. Such service models will help to attract the Internet savvy users back to the libraries and will ultimately help to demonstrate the value of the reference service in the digital age. The following sections will discuss how curation service would be appropriate for that purpose.

Ⅲ. Curation service: the origin and applications

Curation is a new word derived from the Latin root 'curare' which means 'to care' or 'take care of' (Bhatt 2015). As Oxford Dictionaries.com defines, 'curate' means "to select, organize, and look after the items in a collection or exhibition". Historically, curation relates to the processes of organization, collation, judicious selection for presentation purposes, and even curing and preserving (Bhatt 2017). The term 'curation' has conventionally been applied to such work carried out in art galleries and museum settings. 'Curators' were people who plan and explain the works that are displayed in museums and art galleries. In view of this, the traditional concept about curation was selecting the finest objects and arranging them in a careful and meaningful way to facilitate the easy understanding of the relationship between the objects. At the same time, preserving those objects also was an important task of curation. That was curation in a world of scare and precious objects.

Curation is a concept that has been defined in different ways for a long time. Its' form and scale is different. Different research has defined curation in different ways. Different interpretations of curation exist as a result. Discipline-wise it is divided and used in terms such as digital curation, content curation, data curation, social curation, book curation, etc. Although this paper doesn't intend to go for a deep analysis of these specific types of curation one by one, at the outset it attempts to summarize previous studies on them in order to understand their relationship with the concept of curation service. Digital curation is defined as a combination of archiving and curation activities that collects, maintains, permanently preserves and provides access to digital resources (Ahn and Park 2009). While digital archiving simply means the management of digital assets, digital curation incorporates the entire process from production to comprehensive use of digital materials (Kwon et al. 2015). Content curation' has been defined as an act of "selecting the relevant content, out of the vast amount of online content, based on an individual's subjectivity or viewpoint and then organize and edit it and provide the needed or preferred content by the users" (Korea Internet and Security Agency 2012, 26). Data curation is defined as "a type of recommendation service which provides appropriate information to people who have a special interest on a particular subject by collecting information relevant to that

particular topic from different information resources out of the sea of information, and supplying that information in a more convenient form for the user" (Steven, 2013, as cited in Lee and Kwon, 2013, 124-127). Social curation is a concept emerged with the rise of social networks and social media where the social network users share the selected content among them. According to Cha and You (2018, 3578) "social curation enables users to add their qualitative judgment, usually in the form of either like or not, to indiscreet web contents and subsequently, the value-added contents can be re-shared among other users who have common interests." Book curation is defined as "a reading material recommendation service based on objective criteria that are appropriate to a person's reading interests" (Park 2016, 281). Book curation consists of different features such as personalized service, recommendation service, and a content curation service.

Curation in today's world is not related to precious scarcity, but with an abundance of information (Albion 2014). Curation, in the information world, is considered as an essential activity to solve the difficulties created by the abundance of information and abundance of choice. The Oxford Dictionaries.com definition on 'curate', "to select, organize, and present online content, merchandise, information, etc. typically using professional or expert knowledge" is closely associated with this present day meaning of curation. Similarly to a curator's role in a museum setting, curation service collects, shares and adds value to desired content on the Internet in such a way that the other people can consume it (Kim 2013). According to Rosenbaum, "curation is about adding value from humans who add their qualitative judgment to whatever is being gathered and organized." (Rosenbaum 2011, 3) Sasaki (2012) has defined curation service as activities to classify and single out the useful information from the vast amount of data and then collect and distribute it to other people. National Institute of Korean Language defines curation service as "a service that suggests proper content by analyzing an individual's preferences". Ahn defines curation as "a service which collects information created in different fields and then selects useful information, analyses individual's preferences and then recommends adequate information that fits users" (Ahn 2016, 4). According to Chung (2017), curation is "a service that selects and collects different information and grants a new value to that information." By considering all these definitions, we can conclude that curation is an information service.

Apart from information services, many other fields also offer curation services to their users

and consumers with the aim of helping users to find relevant information and products out of the abundance of choice. Commerce is a major field that uses curation for its success. 'Curation commerce' is a response to the issues faced by consumers due to the abundance of choice of products and product information. Early e-commerce services attempted to help consumers to select products by making large product catalogs available online with sophisticated search capabilities and automated recommendation systems based on related, also-viewed and popular products. However, consumers were overwhelmed by too many product choices and the algorithm based product recommendations seemed too general for them. Curation commerce services were emerged to save the time of these consumers and to increase their satisfaction and enjoyment by recommending narrow, well focused, high-quality and personalized products often selected by expert curators. Present day consumers are even willing to pay for such services. 'Select shops' (편집샵), also called as select stores (편집매장), are good examples for curation commerce services. These select shops provide consumers with total coordination of products in a single place instead of the need to look for items in various places. For example, Amazon, the well-established e-commerce site has introduced 'Canopy' curated shop to bring a more curated and community-driven experience for consumers who are shopping their products. Not only consumers are benefited, but vendors also can use curation as a business strategy. Customer segmentation around niche[1] demographics enables vendors to better understand the needs, lifestyles and product preferences of specific consumer groups. Subscriptions to personalized recommendation services can create a group of followers around a product and increase sales and customer engagement. Curation is applied in journalism in the form of 'News curation'. 'News curation services' are getting familiar as they find and gather news from different sources and then organize and arrange the news while adding value and insight of news curators into the news stories before sharing with readers. News curation services such as 'Huffington Post' extracts news content from around the Web, often to the extent that news readers do not need to view the original source of the content. Fans of videos and films are increasingly migrating from traditional cable subscriptions to Over-The-Top (OTT) platforms mainly because of the curation component. 'Video and film curators' select and collect valuable works among numerous online videos and films and distribute them to their viewers through their channels. Video and film

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1) A niche in the market is a specific area of marketing which has its own particular requirements, customers, and products.

curation services such as Netflix offers personalized playlists of TV shows and movies to its subscribers based on their viewing history, etc. by enabling viewers to find the content they are interested in, without much thought or effort. 'Curated databases' intend to save the time of the researchers by creating a structure for unstructured data through human-mediated intellectual analysis (Burgess 2016). CIA World Factbook is a good example of a curated database. This socio-economic database is constructed and maintained with a great deal of human effort in collecting, verifying, and annotating data. Some curated databases, such as CIA World Factbook, even serve as standard reference sources in libraries.

Having considered the above definitions on curation and curation services as well as the different types of curation in different fields, this paper defines curation service as follows. Curation service, in the context of library service, is a human-mediated personalized information service conducted by a professional librarian. Its purpose is to satisfy the expressed and/or anticipated information needs of a user or a group of users by recommending the relevant information and/or information sources. Curation service begins with identifying the information needs of the users. Then the curator selects, collects, and evaluates information from different sources and then adds value to that information through various activities such as editing, annotating and arranging to contextualize information before the curated content is disseminated to the users through appropriate channels.

Ⅳ. Curation service: its relationship with library reference service

The main argument made by this paper is 'curation is not a new service in libraries but an evolution of the library reference service'. Cambridge Dictionary defines evolution as a gradual process of change and development. As far as the development of reference service is considered, it has not remained constant but has evolved throughout history. As discussed in section Ⅱ, it has emerged from 'aid to readers' and 'library instruction' in the mid-19th century and then developed to a more unified term of 'reference work' by the end of the 19th-century. Eventually, it was developed into 'reference service' by the beginning of the 20th-century. By the mid-20th century, it was changed as 'reference and information service'. According to Tyckoson (2001),

reference service is still an evolving service. Therefore, the present study proposes curation as the new form of reference service in the 21st-century.

This section of the paper sets out to consider the relationship between the reference service and curation service. Even though some libraries are already providing different types of curation services such as data curation, digital curation, content curation, book curation, etc., the relationship of curation with the library reference service has not been adequately studied. This section considers how these two concepts correspond to each other with special emphasis on how curation service can contribute to achieving the aims of reference service in the digital age. Especially this section attempts to discuss how curation service can contribute to fulfilling the four basic functions of reference service introduced by Green in 1876. The original meaning of each function is considered with its applicability to the present day information environment and then discusses how curation service fits into that context.

1. Curation Service as a way to instruct patrons how to use the library and its resources

The original sense of the instruction was to help members of the library to learn how to use the library and its resources. Although this function is still considered as a valid function of reference service, today's reference service has to go beyond the boundaries of the physical library collection. Because present-day information environment is much more complex than those in Green's (1876) time. Today, information is not confined only into libraries, but available everywhere in many formats. Actually, there is more information outside than what is inside the library. As users increasingly prefer to use information sources outside the library (such as the World Wide Web), librarians have to consider the Internet also as an information source. On the other hand, the problem with information outside the library is that they are disorganized and without context very often. The problem of disinformation has made the situation more complex. The improvement of the infosphere is the primary ethical duty of librarianship (Floridi 2004). Therefore, instructing users how to use the information both in-house as well as outside the library has become a very important aspect in today's reference service and it has to be strengthened. This function is closely related to curation service too. Because curation is

considered as one of the best strategies to deal with the abundance of information. Curators select and recommend the trustworthy information out of the vast amount of information by utilizing their knowledge and experience about their user needs as well as on the information sources. Therefore, reference librarian's role as curators of the world of information will help users to learn how to find and evaluate information from a diverse range of sources. On the other hand, curated lists and guides compiled by reference librarians can serve as reference tools that guide and instruct users how to find and use information.

2. Curation Service as a way to assist the patron with his queries

Originally, reference librarians have paid more attention to answering user queries. However, by today the demand for factual information has declined as the Internet offers basic information on every possible topic. On the other hand, users in the digital age prefer to find the information on their own rather than approaching reference librarians. This is well reflected in the decline of reference transactions in libraries as well. Further, reference librarian's ability to provide correct answers has been questioned in the literature related to 'the 55 percent reference rule' where unobtrusive studies indicated that reference librarians provide correct answers only slightly more than one-half of the time (Tyckoson 2003). Moreover, the paradigm shift of teaching to learning has persuaded reference librarians to rethink about their traditional role as answer-givers. Therefore answering user queries are not considered that important in today's reference service. On the other hand, one may argue that assisting the patron with his queries cannot be simply interpreted as giving answers. Instead, librarians must facilitate the process of finding answers to user's queries by themselves. Curation can be applied here. Developing curated lists and subject guides, that are similar to reference tools, can facilitate the selection of information sources and evaluate the information within it. Because users can refer curated lists to find authoritative information sources. At the same time, such curated lists and guides can be consulted by self-reliant users to cross-check and verify the search results and answers found by them. These curated lists and guides can be compiled by librarians in collaboration with subject experts to better serve the purpose.

3. Curation Service as a way to aid the patron in the selection of good works

As discussed in the above sections, both the reference service and curation service are natural responses to the abundance of information and abundance of choice. At the same time, the purpose of these services is to help and guide people to find the information or products they want. Form the inception reference librarians have served as trustworthy recommenders of information. In an age of abundance of information, reference librarian's role as a recommender of information has become more important than ever. Sosulski and Tyckoson (2018) state that "in an age of abundance of information and disinformation, libraries can help people make sense of information". Traditionally, reference librarians have done this by compiling reference sources which provide authoritative sources to be consulted by users. In the digital age, librarians as curators can provide the same service by working as human filters of online information. On the other hand, users of the digital age prefer personalized recommendation services and some of them merely depend on the recommendations by others. Examples from curation commerce have proved that even present-day consumers are willing to pay for such services. Therefore, curation as a recommendation service provided by human librarians to assist users in selecting information sources that fit their needs will be an essential job to be performed by a reference librarian in the 21st-century. Curatorial role of reference librarians as interpreters of the world of information will be highly appreciated by the 21st-century user community. Therefore this function has to be strengthened in future library reference services.

4. Curation Service as a way to promote the library within the community

Originally reference service intended to improve the image of the library among the community by ensuring free access to the information and by providing one-to-one service to the community members. In an era where more and more users prefer the Internet over libraries and the reference transactions are declining subsequently, libraries face severe challenges in justifying their existence. When the mid-19th century public libraries faced a similar situation, the reference service was naturally emerged to demonstrate the value of the library to the society by helping and guiding patrons on how to use the library and find the information within it. This service ultimately enabled libraries to secure their fund allocations from city governments, ensuring the

survival of libraries and the profession. Similarly, in the 21ˢᵗ-century, there is a need for evolving reference service models that are capable of attracting Internet savvy users back to the libraries. Curation service can serve the purpose by helping users to find trustworthy information out of the plethora of information. The qualities of curation service such as personalization, recommendation, human touch, etc. are highly appreciated by users in the digital age. Therefore, curation will be an ideal choice for reference librarians to attract users in the digital age back to the library. It will ultimately contribute to promoting the library within the community.

V. Curation services in libraries: some practical implications

This paper proposes curation service not to be considered as a completely new service. It proposes curation service to be considered as an evolution of library reference service in response to the changing information environment and changing user needs. This section discusses some of the possible applications of curation in library services as follows. In other words, curation services in libraries shall be particularly focused on the following areas.

1. Curation as a way to promote library materials and enhance their discoverability

Libraries must use curation as a strategy to promote and enhance the use of information sources that are already acquired and/or subscribed by libraries. Book curation services that use personalization and recommendation features of curation, can be given as an example. Dr. Ranganathan, an early proponent of reference service, has discussed the same concept. He explained how the five laws of library science introduced by him are applicable in library reference service. He emphasized the importance of personal service and recommendations in fulfilling the first law, 'books are for use' and the third law, 'every book its reader' in reference service (Ranganathan 1961). Today, curation service can be used by libraries as a means to make both new arrivals as well as long tail materials discoverable, and connect them with potential users. Sometimes curation can be used to highlight rare and valuable materials in libraries and bring them to the attention of users via physical and/or virtual curated exhibitions, somewhat similar to the museum exhibitions. At the same time, this sort of curation services can serve as

a reader's advisory service to recommend appropriate titles for users. On the other hand, library curation services can save the time and effort of users by minimizing the need to search and browse huge library collections in looking for information. This kind of service will contribute to enhance the use of library materials, increase user satisfaction and will ultimately generate a favorable return on investment. Toronto Public Library's (TPL) eBook and audiobook curation can be given as an example. TPL librarians who are in charge of curation of e-collections identify titles to be curated from many sources such as their personal favorites, other staff members' recommendations, book reviews, media stories, best book lists, bestseller activity, customer checkout patterns, GoodReads rankings, etc. 'TPL Staff Picks' is one of their most successful initiatives that features a single e-book and a single audiobook on OverDrive landing page. The circulation statistics have indicated that over 200 checkouts of the featured titles since they were curated. In view of this libraries can deploy curation service as a strategy to promote and enhance the use of the library materials owned by the library.

2. Curation as an educational and research support service in libraries

Libraries must compile library guides, subject guides or research guides on different subjects, themes or areas of interests by combining in-house library collections (both purchased and subscribed information sources) with freely available online information resources. Reference librarians as curators should select and collect information from various online and off-line information sources and then organize and describe them in such a way that adds value to their users. For example, librarians can create online tutorials, instructional videos and digital guides on various subjects as well as on topics of general interest to help students identify authoritative, scholarly or popular resources. Reference librarian's knowledge about the in-house collection as well as on freely available online information resources, and his familiarity with users interests can be deployed to provide this type of service. Curated guides compiled in the form of easily digested chunks can save the time of the users of the digital age who prefer for synthesized, quick information. In case if reference librarians are lack of the required technical skills or subject expertise, they can collaborate with subject experts or researchers in their institutions to develop the curated guides. Once developed, they can serve as supplemental digital resources to conventional reference sources which can be consulted by users at any time from anywhere via

library homepages. Daegu Gyeongbuk Institute of Science and Technology (DGIST)'s D-Curation service can be given as an example. The DGIST library uses curation service to support the learning process of the students by discovering course related reference materials and digital content. The digital content may be either eBooks or e-journals, or otherwise MOOC lectures, YouTube videos, databases subscribed by the library, or even social media. The main objectives of the D-Curation are to select and supply the trustworthy content required for coursework from the above mentioned wide range of resources. In addition, a number of academic libraries in the Republic of Korea have developed 'Research Guides' on the 'LibGuides' platform to introduce key information resources related to different subjects. The aim of these guides is to help the research and learning process by collecting, organizing and curating information resources in one place in such a way that can be easily consulted and used. In view of this academic libraries can deploy services such as content curation, data curation, etc. as a strategy to support educational and research activities in their parent organizations.

3. Curation as a way of organizing the Web content around a particular topic

By today, there is more information outside the library than inside the library. Users increasingly prefer Internet resources over libraries. However, the Internet as a trusted source of information is a misconception as there is a lot of disinformation on the Internet. Another major problem associated with online information is they are disorganized and without context. Although young people demonstrate apparent ease and familiarity with computers and heavy reliance on search engines, they do not possess the critical and analytical skills to evaluate the information that they find in the Web (Rowlands et al. 2008). Reference librarians can address these issues through curation. They can serve as trustworthy human filters and interpreters of online information. They can provide the context for the Web content by organizing, annotating and interpreting web resources around a specific topic, theme or subject. Reference librarians can compile curated lists of online resources similar to annotated bibliographies or web directories. They can write blog posts that provide reviews and news of online resources. These curated resources can be consulted by users in two ways. At first, they can use such curated resources as valuable starting points for their research. On the other hand, users can consult such curated resources as trustworthy cross-checking tools to evaluate their online search results. In this way,

reference librarians can serve as the curators of the World Wide Web by interpreting it for their users and adding value to the online information through that process. Curated lists of web resources compiled by reference librarians can be considered some sort of small scale and manageable human-mediated projects that serve as alternatives to the Web directories. In this way, reference librarians can use curation to help users to make sense of online information. The curated lists compiled by the reference librarian shall be incorporated into library OPAC's search results and made visible to search engines as well. In view of this libraries can utilize curation service as a way of organizing and providing access to the Web content.

Ⅵ. Conclusion

This study intended to analyze the relationship between curation service and library reference service through an extensive literature review followed by some carefully selected real-world examples of curation services in libraries and other fields. According to the study findings, reference service has emerged as a natural response to the changes in the information environment and users' expectations in the mid-19th century. However, the limitations of traditional library reference service in serving the 21st-century users' needs have compelled libraries to introduce new service models. This paper suggested that curation service, in the context of information service, can be used as the best possible service model to satisfy the information needs of library users in the digital age. The study also proposed some practical applications of curation services in libraries as well. This paper suggests that libraries should energize reference services by incorporating curation service aspects. In other words, libraries in the 21st-century must use curation service to better achieve the fundamental mission of the library reference service, 'the facilitation of the connection between users and the information they desire or need' in an effective and user-friendly manner.

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