

## INFORMATIZATION PROGRAM ACCEPTANCE OF SENIOR CITIZENS IN PUBLIC LIBRARIES OF KOREA

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**ABSTRACT.** *This study aims to investigate what kind of informatization education programs should be provided to senior citizens at public libraries by examining the factors that are considered important when senior citizens take informatization program classes. A survey was conducted targeting senior citizens with experience of taking informatization classes at public libraries. The results of the survey and its analysis are as follows. Social Norms, Usefulness, Ease of Use were perceived important by senior citizens. In addition, Social Norms and Usefulness are factors affecting senior citizens when deciding whether to take informatization classes. Therefore, it can be ascertained that when deciding whether to take informatization classes, senior citizens are mindful of other people's viewpoints, and, at the same time, they make decisions by considering how useful the classes are to themselves. Therefore, when public libraries provide informatization classes to senior citizens, it is important to provide detailed and repetitive classes in order to help them acquire knowledge and skills that are considered as the basic qualities of society to keep up with the changing social trend.*

**Keywords:** Information divide, Senior citizens, Public libraries, Informatization education, Program acceptance

**1. Introduction.** Informatization has changed greatly in modern society. The previously offline services are now available only online, and even if offline services are still available, online services are much cheaper and faster. The ability to acquire and share information determines the quality of life. Thus, informatization is different for the general public and for the information vulnerable class. For the general public, informatization means convenience, but rather inconvenience for the information vulnerable class. In modern Korean society, senior citizens are the representative information vulnerable class, while at the same time the number is growing rapidly. According to the future population projection data reported by the Statistics Korea in 2017, the proportion of senior citizens aged over 65 years among the total population will continuously increase, reaching 15.7% in 2020, 25.0% in 2030, and 33.9% in 2040 [1]. Most of these growing senior citizens are not those who received digital informatization education in the course of regular education, and those who felt little need for it in their work. They are inconvenienced by the low level of informatization, and should devote more time and money than the general public.

In various aspects, public libraries are well-positioned to implement policies and services for informatization of socially vulnerable classes. In particular, it is desirable to provide informatization training for senior citizens at public libraries. Up until now, studies have been actively conducted to measure the digital informatization ability of senior citizens in South Korea, and to enhance the services at public libraries for information vulnerable classes. In contrast, few studies have been conducted for specific details regarding the type of classes that public libraries should provide for digital informatization of senior citizens.

Therefore, this study conducts a survey targeting senior citizens who have actually taken classes to investigate what kind of classes should be provided at public libraries.

**2. Literature Review.** Senior citizens in modern Korea have no difficulty accessing information devices or accessing the Internet. That is the case, according to a survey released by Ministry of Science and ICT (Information and Communication Technology) and the National Information Society Agency of South Korea, on the 2018 The Report on the Digital Divide, senior citizens' retention rate of information devices, or computers or smartphones, stands at 90.1% of the general public, a fairly good level. According to the 2018 The Report on the Digital Divide, senior citizens are becoming information vulnerable class because they do not use their own information devices properly. The level of informatization is only 63.1% of the general public due to the characteristic that senior citizens have difficulty using information devices [2]. The problem of low level of informatization for senior citizens can be solved by learning how to utilize information devices through informatization education.

Many studies have been reported for a correlation between the digital informatization level and the quality of life of senior citizens. Senior citizens who had received informatization education, the satisfaction for old-age life increased while the feeling of psychological loneliness and alienation decreased to a great extent because their self-esteem improved and the satisfaction for social and family life increased [3,4]. Moreover, when the overall digital literacy level increased, the self-esteem increased and depression, anxiety, and loneliness decreased. Furthermore, the psychological well-being of senior citizens had a positive effect on life satisfaction. Therefore, in addition to having a direct effect on life satisfaction, digital literacy performed the role of increasing life satisfaction through psychological well-being [5]. Also, when the informatization awareness and experience were considerable and satisfaction was high, senior citizens were passionate; when the informatization awareness and need were high, the sense of coherence was strong; and when the informatization awareness and need were high and the experience was considerable, the sense of congruity and the sense of self were strong. Furthermore, senior citizens who used information smoothly had high life satisfaction owing to leisure life and satisfaction of needs [6].

**3. Methodology.** The objective of the study is as follows: which factors are considered important when senior citizens take informatization classes provided at public libraries; what kind of education they would want to receive; and going one step further, what are the ideal curriculums when informatization classes are offered to senior citizens at public libraries. To this end, a survey was conducted. The survey period was between April 8 and May 13, 2019, and the survey targets included senior citizens aged 60 years or older who had taken one or more informatization classes at the public libraries in Incheon area. Although the survey was generally classified as senior citizens aged 65 or older, the survey was conducted on senior citizens aged 60 or older to secure the number of survey samples. The questionnaires were distributed by directly visiting the public libraries, and a total of 77 copies were collected.

The questionnaire comprised 34 questions in total and consisted of three main parts. The first part inquired about the general information of the respondents. The second part inquired about the factors that senior citizens considered important when taking informatization classes at the public library. This part consisted of questions that measured independent variables, including Usefulness, Ease of Use, and Social Norms. Among them, Usefulness was further classified into three types: Basic Use, Life Convenience, and Communication. The last third part consisted of questions that measured the dependent variable of intention to attend infomatization classes of public libraries. The questionnaire used the seven-point Likert scale method.

TABLE 1. Examples of survey questions

Measurement factor	Example of question
Usefulness (16)	<u>Basic Use</u> : It is important for me to learn the method of searching information in the informatization classes provided at the library.
	<u>Life Convenience</u> : It is important for me to learn the method of purchasing goods online in the informatization classes provided at the library.
	<u>Communication</u> : It is important for me to learn the method of using messengers (KakaoTalk, Facebook messenger, etc.) in the informatization classes provided at the library.
Ease of Use (5)	Close distance to the library is an important factor for me when I take the informatization classes provided at the library.
Social Norms (3)	It is important for me to acquire the skills that my family and friends usually use when I take the informatization classes provided at the library.
Intention to attend informatization classes (3)	I would like to take the informatization classes provided at the library.

4. **Results.** The collected data were analyzed using IBM SPSS statistics version 25. The scores rated for various factors according to their importance by senior citizens based on their own thoughts were examined, thereby enabling the determination of the factors that received high scores. Also, multiple regression analysis was conducted to determine which factors had an impact on the attitudes of senior citizens.

4.1. **Demographic analysis of samples.** The demographic characteristics of the survey respondents were as follows. Among 77 respondents, 58.4% were males and 41.6% were females. 71.4% (55 respondents) were in their 60s, 26% (20 respondents) in their 70s, and 2.6% (2 respondents) in their 80s, showing that the majority of respondents were in their 60s. Respondents took at least 1 class and up to 5 classes each. The respondents who had taken one class comprised 42.9%, the highest proportion, and those who had taken two classes accounted for 36.4%. The period of taking classes showed that the respondents who answered for one month or longer and less than three months comprised 36.4%, the highest proportion, which was followed by 27.3% of respondents who answered for three months or longer and less than six months.

4.2. **Factors perceived important by senior citizens who take informatization classes at public libraries.** Five independent variables were set up for the factors that are considered important by senior citizens when taking informatization classes at public libraries. By calculating the mean, standard deviation, minimum value, and maximum value of importance scores rated after providing the questions that can measure the importance of these five factors, the overall awareness of senior citizens was determined.

According to the analysis results, the factor considered most important by senior citizens was Social Norms. In other words, senior citizens also wanted to use the skills used by their surrounding people, such as family and friends, and wished to acquire the skills that were recommended by such people. Moreover, they wanted to hear that they were viewed as enterprising persons through acquiring new skills. The second factor considered most important by senior citizens was Ease of Use. Senior citizens were mindful of whether the informatization classes at the public library could be easily and pleasantly taken, that is, the convenience degree of the registration method, distance to the library, and library

TABLE 2. Factors perceived important by senior citizens

Factors		Mean	SD	Min	Max
Usefulness	Basic Use	5.62	0.78	4.00	7.00
	Life Convenience	4.63	1.34	1.40	7.00
	Communication	5.63	1.03	2.00	7.00
Ease of Use		5.87	0.80	4.00	7.00
Social Norms		5.99	0.84	2.00	7.00

TABLE 3. Comparison of importance of the factors contributing to senior citizens' acceptance of informatization classes

(Factor1-Factor2)	Factor1		Factor2		<i>F</i>	<i>p</i>
	Mean	SD	Mean	SD		
U ↔ EoU	5.29	0.85	5.87	0.80	19.225	0.000**
U ↔ SN	5.29	0.85	5.99	0.84	26.717	0.000**
EoU ↔ SN	5.87	0.80	5.99	0.83	0.805	0.371

\* $p < 0.05$ , \*\* $p < 0.001$

facility. In addition, Basic Use, Life Convenience, and Communication showed noticeably high mean values although they were lower than those of the above mentioned two factors. Therefore, it was found that senior citizens perceived Usefulness as a considerably important factor as well.

One-way ANOVA was used to examine how senior citizens assessed the importance of independent variables including Usefulness, Ease of Use, and Social Norms. The testing result showed that there was a significant difference between the perceived importance of Usefulness and that of Ease of Use ( $F = 19.225$ ,  $p < 0.001$ ). The perceived importance of Ease of Use was 11.0% higher than the perceived importance of Usefulness. Also, there was a significant difference between Usefulness and Social Norms ( $F = 26.717$ ,  $p < 0.001$ ). The perceived importance of Social Norms was 13.2% higher than the perceived importance of Usefulness. There was no significant difference between Ease of Use and Social Norms. Therefore, the factors of Ease of Use and Social Norms were perceived significantly important when taking informatization classes at public libraries.

**4.3. Factors that had an impact on intention to attend infomatization classes of senior citizens.** Multiple regression analysis was conducted to investigate which factors were affecting the attitudes of senior citizens.

TABLE 4. Multiple regression analysis results for analysis of factors that affect decision-making of senior citizens

Model	Unstandardized coefficient (B)	Standardized coefficient (Beta)	<i>t</i>	Significant probability
(Constant)	3.894		6.845	0.000**
SN	0.223	0.299	2.816	0.006*
U	0.202	0.273	2.565	0.012*
Test statistics	$R = 0.444$ , $R^2 = 0.197$ , Durbin-Watson = 2.141, $F = 9.066$ , $p = 0.000$			

\* $p < 0.05$ , \*\* $p < 0.001$

According to the analysis results, the regression model showed  $F = 9.066$ ,  $p = 0.000$ ,  $R^2 = 0.197$ , and Durbin-Watson to be 2.141, indicating no correlation between the residuals. Therefore, the regression was shown to be appropriate.

On the other hand, the cases of the significant probability of variables being smaller than  $p = 0.05$  were Social Norms whereby  $p = 0.006$  and Usefulness whereby  $p = 0.012$ . Therefore, it was determined that these two variables were the factors that influenced the intention of senior citizens. The beta values of two variables were  $\beta = 0.299$  and  $\beta = 0.273$ , respectively, indicating that the two variables had an influential power of a positive (+) relationship on the intention to attend informatization classes of senior citizens. Furthermore, since the standardized coefficient of Social Norms was slightly higher than the standardized coefficient of Usefulness, it was determined that Social Norms was the factor that had the largest influence on the intention to attend informatization classes of senior citizens.

Among Social Norms, senior citizens considered the following factors a little more important than “Acquiring the skills recommended by family and friends (Mean = 5.97, SD = 1.04)”: “Acquiring the skills that family and friends use (Mean = 6.00, SD = 0.97)” and “People viewing me as an enterprising person (Mean = 6.00, SD = 0.92)”.

Furthermore, among Usefulness, senior citizens considered the following factors as especially important: “Learning the method of searching information (Mean = 6.17, SD = 0.98)”, “Learning the method of using messengers (Mean = 6.17, SD = 1.11)”, “Learning the method of searching news articles (Mean = 5.99, SD = 0.98)”, “Learning the method of taking and editing photographs and videos (Mean = 5.83, SD = 1.12)”, and “Learning the method of viewing online maps (Mean = 5.75, SD = 0.95)”.

Therefore, it can be inferred that when a public library plans an informatization class for senior citizens, it will be more effective to teach them in detail in accordance with their learning rate while focusing on the skills and knowledge needed by the majority of general public, rather than to teach them special skills and knowledge needed only by senior citizens. Furthermore, it can be ascertained that the curriculum should include the basic uses of computers and smartphones, such as information search method, news search method, or photograph and video taking method, rather than knowledge conducive to life convenience.

**5. Conclusions.** The factors that senior citizens consider important when they take informatization classes, that is, deciding factors that makes them take informatization classes are Social Norms and Usefulness. The attitudes of senior citizens are deeply related to their family and friends. It can be deduced that senior citizens would want to overcome information alienation and be harmoniously incorporated into the society. Living as members of the society is the motivation and goal of senior citizens to take informatization classes. This can be interpreted as an effect of collectivism wide spread in the South Korean society. South Koreans, particularly older-aged South Koreans consider that identifying with group members is important, and they place considerable value on the sense of belonging. Such a propensity makes senior citizens want to use the same skills as those used by family and friends.

Informatization, aging society, and subsequently, the information alienation phenomenon of senior citizens are events that have already occurred and cannot be reversed. However, responding to the demand of senior citizens, if the society prepares informatization classes for senior citizens and provides several opportunities, the information alienation phenomenon will gradually decrease. In addition, public libraries should keep up with the social trend by providing informatization classes continuously for senior citizens and improving class contents.

This study has the following limitations. First, the number of samples in the survey is small, making it difficult to secure the reliability of the research results. Second, the survey area is narrow to Incheon city. Therefore, a follow-up study would require the number of samples to be increased and nationwide conditions to be identified by conducting surveys in other areas outside the city of Incheon.

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