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I . Introduction

Vygotsky(1978) insists that social interaction plays a fundamental role in the development of cognition. He states: "Every function in the child's cultural development appears twice: first, on the

Direction of primary IC learning for healthy online behaviors among primary school children

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As computer networks impact all aspects of our life, many experts are concerned about ill effect of virtual experience. If children stop playing a game they feel as if they were deprived of a friend offline. Children who access to date sites are engaged in children prostitution. The newest technology makes children even addictive. Children lose the ability to be intimate with their family on emotional level. Virtual experience penetrates children's cognitive, affective and social development. Regardless of serious dysfunction, school education seems to be superficially undertaken. Previous studies had been yielded inefficiencies in three perspectives: partiality of survey questions, marginality of school learning and inefficiency of research. This inconsistency brought about confusion in creating realistic school education curriculum. Without providing clear definition it is difficult for teachers to teach how to develop adequate online habits for children. The objective of this study is to examine how well primary school children learn in school. In order to do this work, survey was administered with 227 subjects. The results of survey revealed several findings. It is surprising that primary school children are engaged in online dating to form interpersonal relationship. They began to have access to porn sites voluntarily. Conclusively primary school curriculum should include discriminating behaviors and strategic behaviors for developing healthy online use habits among primary school children.

Keywords : critical period, discriminating behavior, strategic behavior, online dating,

social level, and later, on the individual level; first, between people(interpsychological) and then inside the child(intrapsychological)".

As computer networks impact all aspects of our life, it makes children's daily life pattern change. Children are to use the internet to play games, to listen to music, and to meet new people unlike adults. In addition, children seek new fashion trends from magazines but once the trend is identified, more information about it is gathered online. It is obvious that social interaction with internet becomes more and more prevalent among children.

The most important task to be dealt with here is how growing children learn and show their online behaviors while they are walking on cyber street. Unfortunately many resources have currently found out that internet use deteriorates children's mental healths causing symptoms such as depression(Kraut et al., 1998) and low confidence and high frustration(BBC news, 2003). If children stop playing a game they feel as if they were deprived of a friend offline. The newest technology, the form of video conferencing which adds visual images makes children's activity even addictive. Children lose the ability to be intimate with their family on an emotional level. More seriously, children are engaged in various wrongdoings online. Children who access date sites are engaged in trafficking children according to a press release (Japantimes, 6.25). Internet chatting is the hotbed for the trafficking of minors, and sexual violence (yoehyup, 2002). Internet related dysfunction is not only just a key concern specific to Korean, but also will be an internationally recognised problem in educational settings.

A question remains to be addressed. Information communication technology is so sophisticated that it is almost impossible to moderate the harmful and illegal misconducts for protection of children. Regardless of that, many experts in IT fields more and more emphasize education as a hub of solution. Teachers are not smart technologically and smart ethically but children are vice versa. The teachers experience stress and burden in teaching children due to possession of insufficient knowledge. It is necessary that a clear definition is made of how IC learning environment is equipped for the formation of children's adequate online habits. Then how does IC(information communication) learning have an effect on children's online behaviors?

The objective of this study is to explore how well primary school children learn internet related behaviors at school. To ascertain this end, there are several procedures were administered. First, previous studies were analyzed in three perspectives: survey trends, school learning and research areas. Second, based upon results of previous studies survey questions were made. Children's behaviors online are classified into three groups such as ordinary use behaviors, illegal behaviors and

inappropriate conducts. It is a predictive study to identify how children show three kinds of online behaviors.

II. Analysis of Previous studies

Prior to the analysis of previous studies, it is mentioned that the concept of IC learning use information communication ethics, cyber ethics and information literacy interchangeably. Previous studies revealed three major weaknesses in creating adequate IC learning which is contributed to develop children's healthy online behaviors: partiality of survey trends, marginality of school learning, and insufficiency of research.

Partiality of Survey Trends

A group of studies employed internet use surveys to examine the degree of internet use penetration among internet users. Survey questionnaires were in common comprised of two major frameworks: one group contains perception of medium itself and the other group does the attitudes of users. In terms of questions about the medium itself, the result of the survey was directed at the point of how dangerous the medium is. For instance, a total of 1,355 parents with primary child participated in the survey and they were asked how severely internet environment affects primary school children. The result revealed that 81.3% of parents responded that the internet access is not safe and furthermore dangerous for primary school children(Commission on Youth Protection, 2001). The survey results are contributed to the recognition that internet is a negative medium. In particular parents who are less skilled about computer use than their children will experience uneasiness. The parents are reluctant both to acknowledge internet's potential benefits and to encourage children's internet use. The application of the results yields helplessness of education on the one hand and necessity of strong regulation on the other hand.

Unlike the direction of survey in Korea, other developed countries such as USA and European countries focus on investigating how children get support from the internet usage. In Europe many experts try to create social climate that internet is a useful medium and then conduct their research in a bid to examining what kinds of strategies children need to enhance their quality of life online (UNESCO, 2001). They seek for the methods of how to acquire positive navigation skills and

adequate responses among children.

Another weak structure of survey questionnaires is related to the questioning style. For instance, 'do you receive porn spam mail?' or 'have you accidentally encountered porn sites?' and so on. This investigative method interferes to identify children's real intention. In addition to this, it might ignore the concept of responsibility, only emphasizing the concept of protection in IC learning. Hilden(2003) insisted that children actively surf for the offensive and pornographic messages, not that they are unwittingly running across harmful contents. In the US online assertiveness training is emphasized(FBI, 2002). It is necessary to examine how voluntarily primary school children manifest their behaviors online.

Marginality of school learning

The 7th school curriculum(1997) revised by the Ministry of Education and Human Resources elucidated that primary school curriculum which covers information and communication focuses on cultivation of basic skills in daily life and formulation of daily habits. Armed with information communication ethics current IC learning provides basic computer skills for school aged children to acquire in school.

It does not consider how technological manipulation affects children's mental health negatively. If a child accidentally mistyped a name into an internet browser they would be directed to pornographic web sites and barraged with X-rated pornographic pop-ups. Benjamin (2002) monitored 30 million sites to examine how they are linked with each other. He found out that 85% of web sites is interwoven together not to be traced the origin of sites. It appears that IC learning in school is marginally treated. Recognizing that the traits of internet is considerably different from that of previous medium, information communication ethics education newly appeared.

School learning does not fully consider the traits of internet environment. Virtual environments are places where internet users experiment their inner diversity(Turkle, 1995). In combining computer technology with children's need for immediate gratification, numerous harms took place(Lee, 2000). According to the data from collection of cyber sexual violence reports, Lee insisted that early aged children are engaged in misconducts to get tangible things from counterparts online. Moreover they do not notice that their behaviors are connected to criminal acts.

And some immature teenagers tend to use the internet for unethical purposes. While chatting to peoples online, they instantly offer them to meet for casual sex, so called, 'comsex' or 'bunsex'. These

terms are not used any more because the terms are blocked while typing. Instead they use the terms differently, for instance, 'exciting dating', 'queer affair' and even 'peel off the bean' not to be traced.

On the other hand, current administrative processing to deal with illegal and harmful contents was turned to be ineffective. Because the harmful contents are hidden everywhere in order to avoid legislative countermeasures. Or, many users, if not most, keep pornographic contents in their own computer and distribute files to third parties. This tactic renders policies ineffective, where direct regulation has a limitation to control the contents.

In order to block the children's voluntary misconducts IC learning emphasizes the utilization of the technological tools such the installation of the filtering software and the rating service. But its effect lies in vain (American Family Foundation, 2002 & ABA, 2001). It was found that blocking software blocks beneficial contents as well as harmful contents at the same time. Instead of recommending the use of technological service, user empowerment is best regarded.

Venue of IC learning is also an important due to determine the marginality of IC learning. Many civil institutions or some public institutions provide IC learning irregularly instead of public school settings. IC learning in school is different from that of outside of school does. IC learning in school focuses on specific skills, like how to get information online, while IC learning outside of school does on netiquette.

Insufficiency of Research

In order to enhance the quality of IC learning numerous research have been conducted. Previous studies had been chiefly focused on examining the prevalence of aberrant acts such as addiction and misconducts. Addiction related studies revealed that primary school children are highly exposed to game addiction. The range of addiction rate is from 10% to 29%(Internet data, 2002).

Or the research findings dealt with the relationship between online misconducts and individuals' psychological factors. The major issues are hacking, multiple ID use and virus manufacturing which are related to online crime. After investigating the characteristics of these misdemeanors, Quittner(2002) found that they have poor social skills and inadequate interpersonal skills even though they have a high IQ.

Currently research turns around the direction to enable children to build sound online habits in educational fields. Hazzari(2001) indicated the lack of research on how users actively navigate and respond affirmatively online even though healthy online habits are importantly acknowledged for children to possess. Similarly Pychyl(2002) administered research on online procrastination or cyber slacking.

According to the result of his study, over half of the 308 respondents reported frequent online procrastinating. Respondents said they spent an average of 47 percent of their online time procrastinating. People who procrastinate, however, often have feelings of guilt.

Research Questions

- 1) How well do primary children learn internet related behaviors in the school?
- 2) How frequently do primary children show ordinary behaviors, inappropriate behaviors, and illegal behaviors?
- 3) Does grade level influence online behaviors among primary children?

It is predicted that IC learning affects children's ordinary behaviors, inappropriate behaviors and illegal behaviors online.

III. Method

Subjects

Subjects of this study are primary school children at the age of 11 to 13. They were chosen from one primary school which is located in southern area of Seoul city. The selected area is relatively affluent. The grade level ranges from 4th to 6th. Under the permission of a principal the survey was administered. If children do not agree with the participation they are allowed to drop the participation at any time. 240 children were contacted at first but 227 children were participated.

Since the samples were not randomly selected, this circumstance might lead to less precise measures of control in terms of sample size and unequal subgroups.

Survey Questionnaire

Survey items are made by the researcher who has been operating a report center for last 3 years. She collected numerous complaints which were received during that period, from the beginning of 2000 to the end of 2002. Since she analyzed reported complaints, she chose the items that are currently cutting edge issues and categorized them into three groups. Most complaints are comprised

of harmful behaviors and illegal behaviors. In accordance with the purpose of study, the questionnaires are made.

One subgroup relates to items of ordinary behaviors in internet use. The total number of this subgroup is 6 items that includes skills that children use online while surfing over the internet.

The second subgroup relates to inappropriate behaviors and the last group does to illegal behaviors. They are comprised of most frequent complaints received by the Report center. While most adults suffered from these harms, primary children tend to be unaware of how serious these are. The variable of misconducts online contain four items that are prevalent among children such as access to porn materials, posting of offensive messages, using abusive statements and sending email with sexual images. The items of illegality are related to possible criminal acts and contain ID theft, cyber defamation, and privacy. The items of each scale are introduced as below.

Research procedure

Participants were selected a primary school which is located in southern part of Seoul city. In order to get permission the researcher visited to meet a principal and explained what purpose of this study is and showed the survey questions. After a little correction of items with the principal survey questionnaire was completed. 240 copies were distributed but 227 returned.

Collected data is analyzed by frequency distribution. And Excel was applied to examine the relation among variables.

IV. Results

Descriptive data

A total number of 227 children completed the background information sheet. The average range

Table 1. number of extracurricular activities (N= 227)

# of activities	1	2	3	4	5	6	7	8
# of children	45	54	59	38	17	11	2	1

of the students was 11 years old to 13 years old. The grade levels were 4th grade to 6th grade ;

Table 2. Activities in spare time.

(N=227)

pattern	doing computer	home work	watching TV	reading	studying	playing with friends	else	exercise	music	art	sleeping
# of children	140	110	103	91	79	46	29	20	15	13	13

79 4th graders, 76 5th graders, and 72 6th graders. In terms of gender distribution, there are 125 male children and 102 female children. The data was obtained from the background information sheet. Total items were comprised of 9 ; 2 items relate to degree of offline activities after school and 7 items do to basic internet use.

First, the subjects were asked to indicate how many activities they are engaged in after school. The activities are classified into 9 kinds: music, art, computer learning, total academic learning, math learning, exercising, writing composition and else. As table 1 shows, one child marked 8 activities. 45 children are engaged in 1 activity, while 54 children are in 2 activities. 59 children are engaged in 3 activities. It revealed that primary children are generally engaged in at least 3 extra curricular activities. The highest engagement activity is English learning center. 149 children (65.6%) answered that they attended an English learning center.

Table 2 represents how primary school children spend their time after they finished their extra curricular activities daily. They had an option to write three things freely. 61.7% of children (n=140) tended to use computer, while 45.4% of children (n=103) responded that they chose to watch TV. It is a striking fact that the number of students who use the computer exceeded that of children who watch TV. It is congruent to the result of Yahoo's project that the internet is the primary medium for children over watching TV when getting along their daily lives(2003).

It also indicates that Korean primary school children prefer academic related activities (homework, reading, and studying) to social related activities(playing with friends and exercise) in spending their spare time.

Table 3 presents the distribution of comprehensive internet related activities. They were supposed to answer 'yes' or 'no'. With respect to perception towards internet and game use, 42.3% of children (n= 96) answered that they did computer too much while 57.8% of children (n= 131) did not. 37.8% of children (n= 86) answered that they played a game too much. This result remains to be thoroughly investigated since many studies already have indicated the severity of game addiction among primary children.

Table 3. Frequency distribution of Comprehensive Responses

(N=227)

Items		Yes	No
1	I think I do computer too much.	96(42.3%)	131(57.8%)
2	I think I play computer game too much.	86(37.8%)	141(62.2%)
3	Do I have a email address?	218(96%)	9(4%)
4	Have you access to internet?	223(98%)	4(2%)
5	Do you have a cellular phone?	54(23.8%)	173(76.2%)
6	Do you know mobile internet?	147(64.8%)	80(35.2%)
7	Have you used mobile internet?	87(38.3%)	140(61.7%)

96% of children (n= 218) reported that they have email address while 4% of children (n= 90) did not. And 98% of children(n= 223) reported that they have access to internet and only 2% of children responded negative. Two responses strongly indicate that internet penetration rate is very high among Korean primary school children.

Another three items were related to the mobile environment. Table 3 shows the result. 23.8% of children answered that they have a cellular phone. 64.8% of children (n= 147) already knew the mobile internet. And 38.3% of children answered that they already have used the mobile internet. It implies that IC learning should move on to the understanding of mobile environment. Many information technology experts predict that mobile environment causes various changes of social relationships and life style. While the communication time with parents reduces, the communication time with friends increases(Korean adolescents development center, 2003). It suggests that IC learning should be prepared with a newly developed mobile environment.

Table 4 shows how well primary children perceive IC learning in school. It means that the more children answered positively the more children learn well at school. 90.3% of children (n=203) answered that they learned how to search the information in school. Over 70% of children answered positively that they learned how to post a message on bulletin board, to make email addresses, and to make IDs. These three questions are related to computer skills which are necessary to access the internet. Primary school children learned computer skills fairly well in primary school. 70.5% of children also answered that they learned what illegal behaviors are online.

On the other hand, 52.9% of children answered that they learned how to chat in school. It means that they need to learn how to interact with online counterparts. Because chatting is the most

Table 4. Information Communication Learning about Internet Use

(N= 227)

	Items	Yes, I learned	No, I didn't
1	Do you learn how to do chatting in school?	120(52.9%)	107(47.1%)
2	Do you learn how to post a message online in school?	160(70.5%)	67(29.5%)
3	Do you learn how to make email address in school?	163(71.8%)	64(28.2%)
4	Do you learn how to make ID in school?	176(77.5%)	51(22.5%)
5	Do you learn what illegal behaviors online are in school?	160(70.5%)	67(29.5%)
6	Do you learn to search the information in school?	205(90.3%)	22(9.7%)
7	Do you learn how to respond harmful messages such as porn or abusiveness in school?	95(41.9%)	132(58.1%)
8	Do you learn how to respond bomb or suicide sites in school?	53(23.3%)	174(76.7%)

serious problem, according to a press release. 41.9% of children responded that they learned how to react abusiveness and pornography, while 58.2% of children answered that they did not learn. Only 23.3% of children answered that they learned how to respond to bomb-making or suicide sites. 76.7% of children answered that they did not learn how to respond to specific sites. Since the internet experiments with a child's inner self, IC learning should be prepared order for children to discriminate curiosity provoking contents.

Totally all participants answered that they learned how to use the internet in school regardless of sex difference at the 0.05 level.

In order to investigate how primary school children utilize ordinary skills like surfing internet environment, 6 items were asked. The result showed that primary school children in Korea utilize internet skills actively well in Table 5.

65.6% of children (n= 149) answered that they use avatar which symbolizes the imaginary self of users. 57.3% of children answered that they had chatted with unknown users online. This indicates that primary children are not reluctant to meet unknown users online. It is getting more and more popular among young internet users. It seems to be one of the most serious tasks to be dealt with in school learning. Children are very vulnerable to paedophies, enticement and adults who traffick. Or children tend to meet them offline and keep relationships without identifying counterpart's identity. It ends in tragedy sometimes. According to Lee and Lee(2001)'s survey, 40% of teenagers Among them

Table 5. Utilization Skills for Internet Use among Primary Children

	Items	Yes	No
1	Do use avatar?	149(65.6%)	78(34.4%)
2	Have you chat with unknown users online?	130(57.3%)	97(42.7%)
3	Do you use emoticon?	138(60.8%)	89(39.2%)
4	Have you posted a message on bulletin board?	157(69.2%)	70(30.8%)
5	Do you install filtering software?	139(61.2%)	88(38.8%)
6	Have you joined a member in online community?	177(78.0%)	50(22.2%)

9% of teenagers had a sexual experience with counterparts whose meet the person who they had a relationship over the internet offline. relationships was carried out solely over the internet.

61.2% of children responded that they install filtering software, while 38.8% of children answered that they do not. It means that the awareness of protection is fairly higher than we expected. Its result is incongruent to previous studies that states internet users poorly utilize the filtering software.

78% of participants answered that they actively joined to be a member of online cafe. It is certain that online environment of primary children necessities the maintenance of their social network.

According to the result of Turkey HSD, 6th graders showed higher score than 4th graders in utilization skills of internet. Specifically, several items (item2, item3, and item6) showed significant relationship with grade level. The pearson correlation coefficient level is 0.249, .0348, and 0.284 respectively at 0.01.

Table 6 represents how primary school children commit to harmful conducts voluntarily. The result shows that 15% of primary school children have voluntarily accessed porn sites. In terms of

Table 6. inappropriate behaviors

(N=227)

	Items	Yes	No
1	Have you access to porn sites?	34(15.0%)	193(85.0%)
2	Have you sent abusive statements?	123(54.2%)	104(45.8%)
3	Have you offended online users?	18(7.9%)	209(92.1%)
4	Have you sent email with sexual images or pictures?	0(0%)	227(100%)

obscene contents, most studies investigated how teenagers unintentionally received porn material. One

in 6 have received unwanted sexually exploited materials or access to porn sites(NCMEC, 2000). Unlike previous surveys, this study confirmed how many primary school children have voluntarily access to pornographic contents.

Over half of children answered that they conduct abusive statements. 7.9% of the children answered that they offended the counterparts using the web, bulletin boards, and chat rooms. Fortunately no child answered that they have sent email with sexual images or pictures. It is a sign indicating a starting period that IC learning should emphasize the repertoire of ethical behaviors.

According to analysis of Turkey HSD, 6th graders showed higher score than 4th graders in engaging in inappropriate conducts, even though it is not statistically significant.

Table 7. difference of gender and grade level

(N=227)

	4th graders(n= 79)		5th graders(n= 76)		6th graders (n= 72)	
	male	female	male	female	male	female
access to porn sites	5(6.3%)	5(6.3%)	6(7.9%)	5(6.6%)	10(13.9%)	3(4.2%)
abusiveness	17(21.5%)	8(10.1%)	28(36.8%)	11(14.5)	33(45.8%)	26(36.1%)

Item 1 and item 2 in Table 6 were specified in terms of grade level and gender level since these two questions are the controversial issues to teach primary school children. Table 7 shows how it is found. In terms of grade level, it was 12.6% of 4th graders (n= 10), 14.5% of 5th graders (n= 11) and 18.1% of 6th graders (n= 13). The percentage of voluntary access is increasing as the children grow. It implies that the beginning period of sex education should be provided before 4th grade. Computer technologies such as video conferencing and digital camera may instigate the curiosity of immature children easily and then make them conduct illegal acts without prudence.

In terms of abusiveness, the number of male children exceeded a little more than that of female children but the number of female children is growing. This result remains two questions to be clarified: whether online environment overcomes gender discrimination, and whether the abusiveness is related to growing cyber bullies become major misconduct online. These bullies send their victims abusive e-mails, text messages and post children's simple demeanor or a precursor of severe criminal act. Like offline bullies, false facts publicly. Even they make harassing via cellular phone calls. In the case of cyber bullying, it's really difficult to pinpoint who's doing it, according to the reports from cyber sexual violence report center(Lee, 2000).

Next, table 8 represents how many primary school children manifest illegal behaviors online.

Table 8. Frequency Distribution of potential illegal conducts (N=227)

	Items	Yes	No
1	Have you used your friends' ID?	86(37.9%)	141(62.1)
2	Have you used fake ID ?	14(6.2%)	213(93.8)
3	Have you posted your friend's privacy in community cafe?	16(7.0%)	211(93.0%)
4	Have you posted your friend's privacy falsely in cafe?	13(5.7%)	214(94.3%)
5	Have you sent porno mail to your peers?	7(3.1%)	220(96.7%)

There are 5 items which contain illegal behaviors online. Fortunately the results are generally low. 37.9% of children answered that they had not used friends' IDs while 62.1% of children said they have done it. 6.2% of children made IDs with fake Identification number obtained using ID generators.

Next, primary children answered that they made true or false statements about their peers in community cafe (7.0% and 5.7% respectively). It remains for educators to consider that IT curriculum should be well equipped with the concept of cyber defamation and freedom of speech. Online defamation is, in fact, the most dangerous because of the relatively low cost of setting up a site, the ability to disguise identities and the ease that uncensored information can reach a limitless and known audience. The quantum of damages is yet to be decided. Since primary school children are not aware that it is a matter of legal application, IT learning in primary schools is organized to deliver its meaning and severity clearly.

Item 5 in Table 8 is similar to item 4 in table 6. But the result is not congruent. It is interpreted that since the researcher did not clearly distinguish the two items, the error took place. So item 5 in table 8 was excluded in the category of illegal conducts.

V. Conclusion and Implication

This study intends to examine the effects of IC learning which is necessary for the formation of healthy online habits among primary school children with the internet. The survey was intended to identify how frequently primary school children voluntarily show inappropriate and potentially illegal behaviors online. Cyberspace's traits, anonymity and easiness of self expression make children experiment their inner curiosity. Practically, online defamation is the most dangerous because of the relatively low cost of setting up a site, the ability to disguise identities and ease with which

uncensored information can reach with a limitless known audiences.

However, the results showed that IC learning does not fully teach primary school children how to interact with posted statements or to deal with unknown counterparts online. It gives a signal for educators to rethink the direction of IC learning in two perspectives. First, it is obvious that the primary age level is a critical period to provide IC learning. This is because they are on the verge of acquiring new habits online as well as experimenting curiosity of themselves. According to survey results, they tend to comfortably talk to unknown users even though they are early teens. They are relatively trusting and uncritical about online statements. And they begin to have access to porn material in spite that they do not notice phedophiles or casual enticements to lure them.

Second, the result found that primary school children are actively engaged in online communities. As Wallace(1999) already insisted that the online community gives attachment and intimacy to users that they apt to flock together without prudence. Moreover these two characteristics contribute to game addiction. In order for primary school children to be a member of a healthy community and to participate in a sound community, IC learning can do much to develop socially sanctioned values online. Since the internet enables primary school children to be active participants, IC learning must reflect how children interact with technological development which has an impact on children's cognitive and affective functions. Currently the greatest risk our kids face online becomes IM(instant messaging), not chat rooms as most adults now believe.

Therefore, IC learning should include discriminative behaviors and strategic behaviors for the formation of healthy online habits. These two behaviors are necessary skills against technological manipulation. IC learning curriculum is not operated as ready-made knowledge but as an ongoing delivery of knowledge. Without modifying the direction of IC learning primary school children with internet access lose their opportunity not only to acquire online ethics but also to build self-identity.

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건전한 온라인 이용 습관 형성을 위한 초등교육의 방향

이 경 화

정보통신윤리위원회

컴퓨터 네트워크가 우리 생활의 모든 부분에 영향을 미치게 되면서 많은 전문가들은 가상경험의 부작용에 대하여 우려의 목소리를 높이고 있다. 특히 아직 자아가 형성되지 않은 온라인 아동 이용자들이 직접 데이트 사이트에 접속하여 성매매에 가담하고 있는 가 하면, 온라인 게임에 중독되어 이를 중단하면 마치 오프라인상의 친구를 잃은 것처럼 금단현상에 시달리고 있다. 뿐만 아니라 화상 채팅을 가능하게 하는 기술발달은 또 다른 중독양상을 유도하고 있으며, 가족간의 친밀감을 손상시키는 등 가상경험은 아동의 인지, 정서 및 사회적 발달에 심각한 악영향을 미치고 있다. 그런데도 불구하고 현재의 아동의 온라인 이용 관련 연구 방식이나 교육과정은 이러한 사정을 직접 반영하고 있지 못하고 있는 듯하다. 대표적인 예로, 아동의 온라인 이용 실태조사 대부분에서는 초등학생의 수동적 이용행위만을 질문하고 있으나, 이는 가상공간의 특성을 제대로 반영하지 못한 조사이다. 가상공간은 초등학생의 미성숙한 인지·정서·행동 기능을 다양한 방식으로 자극하여 아동으로 하여금 능동적·자발적인 온라인 참여를 유도한다. 이러한 특성은 학교교육의 방향 또한 혼선을 불러일으키고 있다. 본 연구의 목적은 초등학생 227명을 대상으로 한 설문조사 결과를 바탕으로, 초등학생들이 온라인 이용과 관련한 정보통신윤리를 학교에서 얼마나 잘 학습하였는가를 조사해 보는데 있다. 그 결과 건전한 온라인의 이용습관은 초등학생기가 가장 중요하다는 점을 도출하였다. 그 이유는 현재 아동 이용자들은 초등 학령기에 온라인 상에서 새로운 인간관계를 형성하기 시작할 뿐만 아니라, 자발적으로 음란물을 검색하기 시작하기 때문이다. 특히 이 시기의 아동들은 온라인 상에서 접한 상대방 및 정보에 대하여 여과 없이 받아들이고 있어, 이들을 대상으로 하는 정보통신윤리 및 이용교육에 중점을 두어 정보변별행동과 전략적 행동을 배울 수 있도록 해야 할 것이다.

주요어: 초등학생, 결정기, 정보변별 행동, 전략적 행동, 온라인 만남.