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PRIMARY EDUCATION IN VIETNAM AND PUPIL ONLINE ENGAGEMENT

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Abstract

Purpose

This paper focuses on exploring the disparities in social awareness and use of the Internet between urban and rural school children in the North of Vietnam.

Approach

A total of 525 pupils, aged 9 to 11 years old, randomly selected from 7 urban and rural schools, who are Internet users, participated in the study and consented to responding to a questionnaire adapted from an equivalent European Union (EU) study. A comparative statistical analysis of the responses was then carried out, using IBM SPSS v21, which consisted of a descriptive analysis, an identification of personal self-development opportunities, as well as issues related to pupils' digital prowess and knowledge of Internet use, and Internet safety, including parental engagement in their offspring's online activities.

Findings

The study highlights the fact that children from both the urban and rural regions of the North of Vietnam mostly access the Internet from home, but with more children in the urbanized areas accessing it at school than their rural counterparts. Although children from the rural areas scored lower on all the Internet indicators, such as digital access and online personal experience and awareness, there was no disparity in awareness of Internet risks between the two sub-samples. It is noteworthy that there was no statistically significant gender difference towards online activities that support self-development. In relation to safe Internet usage, children are likely to seek advice from their parents, rather than through teachers or friends. However, they are not yet provided with an effective safety net while exposing themselves to the digital world.

Keywords: Pedagogy, Computer Science, Internet, Urban and rural schools, North Vietnam.

Article Classification: Research Paper.

I. School Children Use of the Internet and the Vietnamese Educational System

Digitisation and globalisation disrupt the social behaviour and living styles of not only adults, but also children. Researchers and educators have anticipated and closely monitored gradual changes in technological developments and their impacts on the educational field, in order to maximise the learning capabilities of children and increase the effectiveness of practised pedagogies and curricula. Various online learning platforms have been integrated in the higher educational systems, especially in developed countries. For example, high school educators in the US endeavour to equip students and pupils with technological skills and prowess in order to enhance cognitive development as well as develop a solid foundation for further education. Subsequently, online teaching and learning tools have been integrated into various curricula with a specific aim of assisting students and pupils in better understanding science (Çapuk, 2015). Furthermore, a spectrum of studies focused on the use of the Internet, covering a number of aspects, such as fostering identity and researching healthcare issues among children (Katz, Lee and Byrne, 2015).

In Europe, the European Union released a comprehensive report in 2014 related to the use of the Internet by children, which was based on a number of studies in 25 countries starting from the early 2000s (Ólafsson, Livingstone and Haddon, 2014). The report focused heavily on the children's safety while surfing, socialising, searching, watching, playing and completing homework on the Internet, and the role of parents in that respect.

In Asia, particularly in Malaysia, the use of the Internet in education has been studied extensively by many researchers and, based on various findings, it was reported that amongst those who partook in the surveys, the majority of children engage with the Internet in their study on a regular basis, either daily or weekly (Omar, Daud, Hassan, Bolong,and Teimmouri, 2014; Soh, Yan, San Ong and Teh, 2012). The study by Singapore-based SuperAwesome Asia highlighted the fact that approximately 70 million children from South East Asia countries, such as Indonesia, Malaysia, Singapore, Thailand and Vietnam, would prefer using the Internet, including, for example, browsing Youtube, than watching television (Getzler, 2016). In some other countries, such as Singapore, Thailand and Malaysia, evidence-based research highlighted issues and impacts of Internet use among children in relation to safety and educational development, except in Vietnam. Currently, the Vietnamese government is in the process of redesigning and reforming the curriculum from primary to higher education levels, with Information and Communication Technology (ICT) as the core platform for teaching and learning activities (Kinh and Chi, 2008).

Overview of the Computer Science Subject at Primary Schools in Vietnam

In terms of primary education in Vietnam, children normally start their compulsory primary education at the age of six, when they are enrolled on Grade 1, and continue their primary education for five years, up to Grade 5 at the age of 11. It was reported that, in the 2014-2015 academic year, there were approximately 15,277 primary schools across Vietnam, providing educational service to about 8 million children, aged 6 to 11 years (Thao, 2015). The renovated primary education curriculum in Vietnam is divided into two phases (Wikipedia, 2017):

- Phase 1: includes Grades 1-3 (ages 6-8) with six subjects, namely, Vietnamese language, Mathematics, Moral Education (Civics), Nature and Society, Physical Education and Arts;
- Phase 2: includes Grades 4 and 5 (ages 9-11) with the following 9 subjects: Vietnamese language, Mathematics, History, Geography, Sciences, Moral Education (Civics), Basic Techniques, Music, Physical Education and Arts.

This paper focuses on children enrolled on Grades 4 and 5, in particular, since, whereas the above subjects are compulsory, Computer Science, on the other hand, is not considered as a core subject, but an elective one.

Generally, the aim of Computer Science in primary schools is to, firstly, provide some basic concepts of Information Technology (IT) and, subsequently, develop some IT skills which children apply in their learning activities. In addition, children are educated to develop abilities to use some applications and software (Hoai, 2015).

The Computer Science curriculum in Grades 4 and 5 focuses on how to enhance basic computer skills, such as typing and painting applications. The use of the Internet, as well as new electronic media, is not yet embedded into the national curriculum.

Education and Internet Use in Vietnam

Generally, according to Moore Corporation's latest 'Vietnam Digital Landscape 2015' report, Vietnam is experiencing meaningful growth in Internet penetration due to the proliferation of mobile phones. In Vietnam, 44% of the country's total population are now Internet users, three times more than in 2005. But most importantly, the number of mobile subscriptions increased by eight times compared to 2005, currently at 128.6 million subscriptions, surpassing the country's population of 90.9 million. While users in Vietnam currently rely on non-smartphone devices (52%), nonetheless 3G subscriptions are consistently on the rise, with 29.3 million subscriptions as of 2014 (Moore Corporation, 2015; Fintechnews Singapore, 2015; Poushter, 2016).

Although the use of digital devices and the Internet significantly grew, the national Computer Science curriculum in Vietnam has not yet provided safe opportunities for children to interact with the Internet and social media platforms. Inherently, pupils at Grades 4 and 5 accelerate their ability of self-learning outside of schools, such as at home, coffee shops and friends' houses. Therefore, the aim of this study was to identify the patterns of Internet usage among children in Vietnam and, subsequently, establish limitations and pinpoint divergences between children from urban and rural areas in the North of Vietnam in relation to Internet use.

de Koning and colleagues (de Koning, Ta, Crul, Wever and Brezet, 2016) highlighted the fact that educational activities are part of the online culture behaviour of the Vietnamese middle class society. In other words, a high correlation between Internet usage and education is an alternative route to express a higher social status in Vietnam. From the social science point of view, this finding paves the way to further investigate the means by which children make use of the Internet and how parents interact with their offspring in order to ensure safe – and perhaps limited – exposure to the online risks while still maintaining social status.

II. Aim and Objectives

The study investigated school children modalities and patterns of Internet use. The main drive was to identify the disparity amongst children from rural (Hai Duong) and urban (Hanoi) areas of North Vietnam towards Internet usage, and eventually associate any identified digital divides with learning and self-development modalities. In particular, the study adopted the framework of conceptual structure in relation to the way online opportunities could pave the way towards learning and self-development (Rashid and Asghar, 2016).

III. Study Settings

Respondents and Cluster Sampling

Although there is a large number of primary schools located in the North of Vietnam, both urban and rural areas, there were two major obstacles to overcome:

1. The fact that there are fewer pupils per school in the rural region;
2. The difficulties in gaining access to Grades 4 and 5 pupils in primary schools.

To address these issues, the following strategies were adopted:

1. It was necessary to consider significantly more schools in the rural region in order to reach an equally meaningful number of respondents as those obtained from the urban region – note that, even though the study initially targeted 905 pupils in the urban schools, only 203 finally partook in the survey, as outlined in Table 1;
2. A cluster sampling technique was used to select the location, as well as the participants.

The combination of the above two strategies allowed us to devise a simple random sampling technique where each cluster is heterogeneous. Based on the criteria of the study, which focused on children from two separate urban and rural locations, Hanoi capital city and Hai Duong province, respectively, were independently selected. Hai Duong is located approximately 75 km away from the capital city and the majority of the populace (approximately 76.9% in 2015) (Knoema, 2016) inhabits the rural area. Hence, a set of 525 Grades 4 and 5 children, aged 9 to 11, was randomly selected from seven primary schools in the two locations: one urban (n = 322) and six rural (n = 203). Their average age was 9.4 (Table 1). In terms of gender, 253 (48.2%) were females and 272 (51.8%) were males.

The urban school is located in the centre of Hanoi and is one of the few schools in the whole of the city which allow children from different districts to enrol. Hence, pupils from this school are considered as representative of urban children. The six rural schools are scattered around the territory of Hai Duong province. Almost all of the children were born and grew up in that same province and, thus, were not yet fully exposed to an urban environment.

In relation to the general learning outcomes of the Computer Science subject in primary schools, the Vietnamese Ministry of Education (MoE) set out the same canvas of the subject's curriculum for all schools. However, the MoE is also aware of the fact that the current facilities and competency in teaching between the urban and rural areas are completely incomparable. This leads to significant disparities in pedagogical practice, as well as in teaching resources, which, as a whole, dictate the quality of delivery of the Computer Science teaching and learning activities. This eventually impacts on pupils' awareness and knowledge of the subject, as well as on their proficiencies towards the Internet use. In the urban area, qualified teachers go through numerous formal and informal training sessions for the subjects they teach, whereas their counterparts from the rural areas receive less support and opportunities from the educational system to enhance their career development. There is also a wide divide between the two regions in terms of resources and Internet connectivity: there are currently 31.6 Internet subscribers per 100 individuals in Hai Duong province, while 95% of young people in Hanoi have access to the Internet (Minh 2016; The Economist, 2012).

This study targeted pupils in Grades 4 and 5 in order to ensure that those who partook in it were equipped with some adequate digital skills in performing online activities.

Survey Design and Settings

The main criterion stipulated for the selection of the sample of the children who participated in this cross-sectional survey was that they must be using the Internet. The students were identified upon the recommendation of their teachers who first administered a verbal screening questionnaire related to the use of the Internet in classrooms, followed by a

classroom-administered survey technique to collect the data. The duration of each session was approximately 45 minutes, equivalent to one teaching session. During the session, one Computer Science teacher was responsible for guiding the children throughout the steps of the survey and the children were encouraged to ask questions in order to clarify any issues related to the purpose and transparency of the process and/or any ambiguity encountered while responding to the questionnaire.

The questionnaire used in this survey was initially developed in English and was adapted from an equivalent EU study, entitled EU Kids Online II (Hasebrink, 2009). It was subsequently translated into the Vietnamese language and validated by the teachers who are directly involved in teaching the Computer Science subject in both the urban and rural areas. This ensured that technical and nuance aspects of the phraseology used in the questions were maintained with regard to any subtle discrepancies that may exist in the linguistic dialects between the two regions.

IV. Descriptive Analysis

As outlined in Table 1, school children from the urban area who partook in the survey accounted for 61.3% of the aggregate total number of children, of whom 65.9% were enrolled in Grade 4. The number of children in Grades 4 and 5 in the rural schools was nearly equally distributed (49.8% and 50.2%, respectively). Also, overall, the number of girls and boys was proportionally distributed, accounting for 48.2% and 51.8%, respectively, and was furthermore nearly equally distributed between the two areas.

The age when children started to use the Internet varied from as early as 2 years to 11 years. Indeed, as Figure 1 demonstrates, children who live in Hanoi city evidently interacted with the Internet at a much younger age (mean = 6.3, SD = 1.9) than those from Hai Duong province (mean = 8.23, SD = 1.9). Also, a proportion of 2% of the pupils in the urban area school stated that they started using the Internet from age 2, while the earliest such age of children from the rural area schools was 3 years old, and only at 0.7%.

In addition to the above demographics, the study also endeavoured to collect the end-of-year exam marks achieved by the Computer Science subject pupils. However, only marks of 41.1% (n = 216) of the total survey sample size could be obtained, including 26.4% (n = 57) respondents from the rural schools. This is because only the urban and three rural schools agreed to share information related to the children's final marks in this subject. Table 2 shows that pupils from the urban schools performed much better than those in the rural region, observing a distance of 1.69 in their respective mean scores. Also, on the average, the urban children performed relatively uniformly in the Computer Science subject, in comparison to other subjects across the curriculum. This was indicated by a standard deviation (SD) of 0.58, while there was significant disparity in this subject's performance in the case of the rural school children, at an SD of 1.15.

In terms of resource availability, among all means of Internet access from both areas, the largest proportion of children (53.3%) used shared PCs, followed by tablets (47.6%), mobile devices (45.5%) and laptops (26.5%). Other modes, such as game consoles, were seldom used to access the Internet in either the rural or urban schools. Noticeably, mobile devices and tablets were the most used by children from Hanoi, at 58.9% and 72.7%, respectively,

whereas shared desktop machines were the most commonly used by their counterparts from the Hai Duong province, at 61.4%.

Another finding that emerged from the study is that most children who partook in the survey stated that they accessed the Internet in their own homes, rather than at other places, especially schools. In addition, the obtained data indicated that nearly half (43.4%) of the surveyed population accessed the Internet for under half an hour, daily, and 24.8% did not access it at all during school days. However, in the weekends, the number of children who did not access the Internet reduced from 24.8% to 8.2%. Based on the inferential Independent-Sample T test and cross tabulation, the results showed a significant difference between the two groups in terms of duration of Internet access on week days, as more urban children accessed it during their school days than children from the rural area. This is because there was a statistically significant difference in the duration of Internet access on week days between the two children groups ($t = -5.43$, $df = 360.2$, $p < 0.001$). Also, a number of urban children ($M = 5.5$, $SD = 4.26$) reported spending their daily time significantly higher on interacting with the Internet than did the rural children ($M = 3.34$, $SD = 3.67$). In terms of gender, there was no difference between boys and girls accessing the Internet on week days as well as during weekends.

V. Personal Self-Development Opportunities

Various studies have identified three categories of online self-development opportunities amid children, namely, content-based activities, communication based-activities and conduct/peer participation activities (Issa et al, 2013). Hasebrink and colleagues (Hasebrink, Livingstone, Haddon and Ólafsson, 2009) categorised educational resources, including entertainment, games and fun, searching for information and social networking as content-based activities. Many other studies used the same categories for research in relation to online self-development opportunities among children, such as Pruulmann-Vengerfeldt and Runnel (2012) and Kalmus et al (2012). In this study, content-based activities included school work, playing games, watching video clips, reading news and downloading music. Among all the listed activities, using the Internet to watch videos and for study purposes exhibited the highest counts ($n = 371$ and $n = 316$, respectively). Other activities articulated were: downloading activities ($n = 160$), reading news ($n = 155$), playing games ($n = 201$) and raising pets in the virtual world ($n = 115$). Amongst children who indulged in content-based activities, those from the urban area showed to be more active than their rural counterparts. These findings revealed a different pattern in comparison to other studies conducted in European countries, where the children's top Internet activity is related to studying (85%), followed by playing games (83%) and watching video clips (76%) (Omar et al, 2014).

Generally, in terms of gender difference, pupils, whether boys or girls, demonstrated similar patterns towards online activities, except for playing online games where the boys' activities exceeded those of girls. This finding supported that of a recent report released by Pew Research Center, showing that the proportion of boys (84%) playing games was higher than that of girls (59%) (Lenhart, 2015).

For the other categories, that is, communication-based activities (instant messaging, email, chatting and forum participation) and conduct/peer participation activities (blogging, posting photos and accessing file-sharing sites), a pattern similar to content-based activities was also

observed, showing urban children being more actively engaged on the Internet than those in the rural area.

Table 3 summarises the total numbers, as well as percentages pertaining to each group, where pupils undertook activities within the three self-development categories identified above. Also the Chi-Square (χ^2) tests show that, for content-based activities, there was a significant difference in watching video clips online between urban and rural children, and the magnitude of the difference in the proportions was large. The results of the χ^2 test for this particular category supported the descriptive findings, where watching video clips online was the top-most activity undertaken by pupils from the urban (n = 276) and rural (n = 95) areas.

In the category of communication-based activities, there were also significant differences in the underlying activities although there were no large differences in their corresponding means. Similarly, in conduct/peer participation activities, despite the differences between the groups relating to updating news on online social media, the difference in the means was small.

With regard to gender, the independent t-test demonstrated the fact that male and female pupils showed no statistical differences in all online activities, except for playing online games (mean difference = 1.58, 95% CI: 1.53 to 1.62).

VI. Digital Prowess and Knowledge of Internet Use

Pupils were asked about information related to social media profiles. The proportion of children from Hanoi who expressed that they possessed more than one profile doubled that from the rural area. However, over half of the total respondents (64.4%) stated that they did not know the settings of their personal social media accounts and 44.2% of the children were not conscientious about the information they included in their social media personal profiles. In other words, nearly half of the target sample was not aware of the type of information that can be shared. Although the proportion of children who had not yet acquired privacy controls' knowledge about social media account setting was significantly high in relation to sample size, this percentage is in line with a study from the Pew Research Center, in 2012, which reported that among all popular social network site users, 48% of them acknowledged having difficulties in managing privacy controls (Madden, 2012).

More importantly, nearly a quarter of the total sample could not identify a tranche of illicit online activities that are not suitable for their age and in which they should not indulge, and 19.4% did not express their opinion in the survey in relation to this issue.

Although there were differences among rural and urban children in terms of online activities and social media interactions, the awareness of risk-taking for both groups showed no difference since the *p*-value (0.152) was much larger than the significant cut-off level of 0.05. Noticeably, the majority of children from Hanoi (225 out of 322) were able to articulate at least one activity that they are not supposed to engage in, or shy away from engaging in, while surfing the Internet, compared to only 39 out of 203 children from the rural school. However, there was no statistical difference between the online risk awareness among the two groups of children.

VII. Parent awareness and Parental Mediation

One out of three parents was not aware of their offspring's online activities, and only 38.9% of children reported that their parents were well aware of such activities. In addition, an aggregate significant proportion of children either did not respond to this question (the data exhibits 9.5% missing data) or did not wish to reveal any related information (13.1%).

In greater detail, an Independent-Samples t-test was carried out and implied that, on the average, parents in the rural areas had different levels of awareness towards their offspring online activities than their counterparts in the urban area, $t(289.8) = 0.86$, $p = 0.39$.

Similarly, when asked about whether parents should pay less attention to their children's online activities, a significant proportion of the children did not respond (34.9% missing data), while 9.9% of them preferred that their parents maintain the same current level of attention.

Table 4 outlines in greater detail the statistics relating to parents' behaviours toward their offspring's online activities in the urban (U) and rural (R) contexts.

In terms of engagement between parents and children in relation to the use of the Internet, 34.5% of parents from the rural area appeared not to have spent time with their children, while the proportion of their counterparts from the urban area was much higher – nearly double at 65.5%.

In terms of encouraging children to discover the Internet by themselves, more parents from the urban area seemed to be in favour of this approach than those in the rural region. In addition, this pattern also replicated for parents who tend to engage with their offspring through sharing online activities.

Table 5 outlines the list of online activities that children are either allowed to do or forbidden from by their parents. It showed that, with the exception of watching video clips on the Internet, the largest proportion of children were not allowed to undertake other activities, such as sending instant messages to other people, sending personal information to individuals through the Internet or sharing resources with other people online, even under parental supervision. Markedly, a significant proportion of parents (30.7%) were unaware that their offsprings possessed accounts on social media sites.

VIII. Advice Related to Internet Safety

Schools

Exactly half of the children surveyed stated not to have used the Internet at school, while 9% did not respond. Out of 161 children who had used online facilities at school, the following were recorded:

- 38.6% did not obtain any assistance from teachers when experiencing any difficulty while using the Internet;
- 35.1% did not get any advice from teachers about which websites ought or ought not be accessed;

- 36.5% did not receive any safety guidelines from teachers as to how to properly and safely use the Internet;
- 54.5% did not receive any suggestions as to how to behave with other people, especially strangers, in the virtual world;
- 44.3% were not aware of any procedure as to how to access the Internet safely;
- 55.1% did not engage in any discussion with teachers as to how to deal with uncomfortable situations on the Internet.

Parents and Friends

Children appeared to have discussed some Internet safety issues with their parents. This is evidenced by the fact that, of the children surveyed:

- 66.7% received some recommendation from their parents relating to safe Internet use;
- 57.0% reported that their parents highlighted the range of websites that are appropriate for them to surf.

Interestingly though, and perhaps due to socio-cultural norms, when children experienced difficulties online, the majority turned to their teachers for assistance and followed their guidance.

Nearly half of the total children (42.9%) never offered any advice or shared their experiences with friends in relation to the safe access of the Internet.

IX. Discussion

The statistical results of the study showed that participants accessed the Internet more at home than at school, even in the case of those enrolled in the urban school. This supports the notion that state schools in Vietnam do not possess the same computing resources as those available in the children's households. This, in turn, presents educators with a hurdle to integrate new technologies or modern media facilities into pedagogy in school practices, especially in relation to the Computer Science subject.

Another dimension of this study related to the role that parents play in ensuring a safe environment for their offsprings in the digital world. Although parents were reported to be consistently having some form of discussion with their children about issues and problems while interacting with various applications on the Internet, when it comes to problem-solving issues, children tended to opt toward consulting their teachers and not parents. This paves the way to two alternative hypotheses: either (1) the engagement by parents is ineffective, or (2) due to socio-cultural norms, pupils hold their teachers in much higher respect when it comes to education and learning activities, and therefore value their opinions and guidance more than they do their parents'. Since children engage in online activities at home more often than they do at school, then when faced with a problematic situation, instant and effective solutions are not available to them.

Almost all participants who partook in the survey were aware of the fact that there are certain domains that are not appropriate for their age. This means that the conceptual boundary to protect children and maintain their healthy learning and self-development activities inherently exists. However, its delineation is very vague: when asked what exactly are the forbidden

features or inappropriate online elements that they should not access (or watch), only a small number of children were able to list some items. This is further compounded by the fact that the study confirmed that pupils exploit online resources when they are at home in relation to their study of the Computer Science subject, in particular, and other subjects, in general. Ineffective levels of parental engagement and/or supervision increase risks and hidden hazards that children might encounter while immersing themselves in the digital world. Whilst social science research has not yet identified whether such exposure to online risks could either enhance or reduce children's learning development, nonetheless, it is perhaps logical to assert that providing a safe and healthy digital environment for children would contribute to maximising their learning development, let alone their welfare.

Although the Vietnamese national curriculum on the Computer Science subject does not explicitly cover the use of the Internet and its related aspects, the majority of children who took part in this study claimed to have used the Internet in their learning activities. This emphasises the urgent need for the MoE and educators in the country to not only improve ICT facilities in schools, but also to revise the Computer Science curriculum in order to (a) provide a supportive environment for learning development and (b) collectively advocate the dynamics of Internet use in order to ensure safe access and use by the children.

Another challenge facing the MoE is the necessity to improve the level of knowledge and competency of teachers of the Computer Science subject, especially in the rural regions of the country. For educators in the developed economies, non-verbal communication, especially various aspects of kinesics, haptics and proxemics in the digital environment, is becoming progressively ubiquitous in their pedagogical practice. This is far from being the case in Vietnam (Binh, 2015) and will eventually bear negative effects on future generations of children from a learning and self-development perspective.

Based on the above findings, there is an urgent need to develop a national-scale framework that assesses the situation with respect to various ages at the primary school level. Some lessons gleaned from this study ought to be taken into consideration while developing such a framework. In Europe, a comprehensive tool was developed that maximises children's opportunities while interacting with the Internet, simultaneously identifying and minimising the risks that they may be exposed to (Livingstone and Haddon, 2009). Thus, a similar framework, tailored to the Vietnamese society, would pave the way towards developing a suitable peer-to-peer capacity building mechanism for parents and teachers as to how to enhance the formal curriculum in relation to the Computer Science subject, in particular, and online pedagogy, in general, in such a way to provide a safety net for children of all ages, and not only to those aged 9 to 11 years. Our group is currently in the process of developing such framework.

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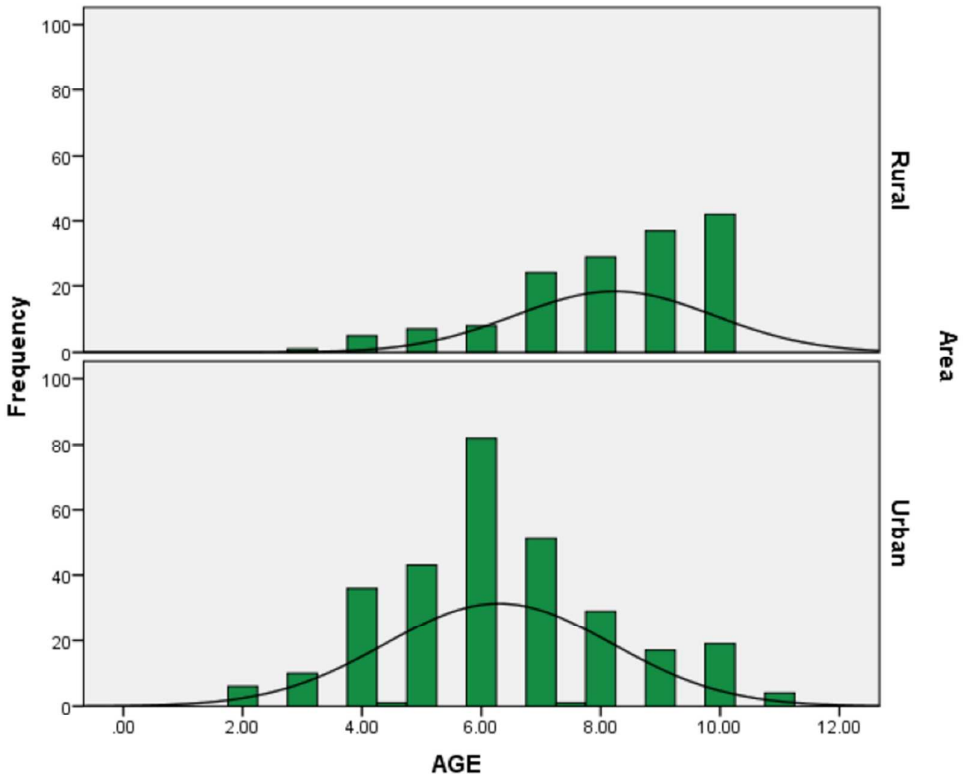

Figure 1. Age Differences with Respect to First Exposure to the Internet among Children in Urban and Rural Schools

Table 1. Distribution of Schools and Pupil Populations

School Identifier	Region	Number of Classes	Maximum Class Size	Initial Target Population	Final Sample Population	Grade
TB	Rural	4	35	140	32	4
LS	Rural	3	30	90	24	4
TT	Rural	6	45	270	40	4
TM	Rural	4	35	140	32	5
TC	Rural	5	35	175	70	5
NH	Rural	3	30	90	5	4
TN	Urban	12	42	504	322	4 & 5
Sample size: Rural area: n = 203 (38.7%) and urban area: n = 322 (61.3%). Grade Division: Grade 4: n = 346 (65.9%) and Grade 5: n = 179 (34.1%).						

Table 2. Differences in Computer Science Marks Between Children from Urban and Rural Areas

Computer Science Subject End-of-Year Marks	Area							
	Rural				**Urban**			
	Mean	Median	Mode	Standard Deviation	Mean	Median	Mode	Standard Deviation
	7.88	8.00	9.00	1.15	9.57	10.00	10.00	0.58

Table 3. Responses to All Three Categories of Online Self-Development Opportunities

	Rural Area n (%)	Urban Area n (%)	Total n	Chi-Square (χ^2) Test
Content-Based Activities				
Watching video clips	95 (25.6%)	276 (74.4%)	371	$\chi^2 = 91.35$ p-value < 0.001
School work	86 (27.2%)	230 (72.8%)	316	$\chi^2 = 17.282$ p-value < 0.001
Downloading activities	31 (19.4%)	129 (80.6%)	160	$\chi^2 = 20.92$ p-value < 0.001
Reading news	38 (24.5%)	117 (75.5%)	155	p-value > 0.05
Playing games	73 (36.3%)	128 (63.7%)	201	p-value > 0.05
Raising virtual pets	23 (17.7%)	107 (82.3%)	130	$\chi^2 = 32.05$ p-value < 0.001
Communication-Based Activities				
Instant messaging	13 (15.1%)	73 (84.9%)	86	$\chi^2 = 15.33$ p-value < 0.001
Email	5 (6.7%)	70 (93.3%)	75	$\chi^2 = 28.78$ p-value < 0.001
Chat room	17 (14.8%)	98 (85.2%)	115	$\chi^2 = 23.02$ p-value < 0.001
Conduct/Peer Participation Activities				
Updating news on social media	39 (20.6%)	150 (79.4%)	189	$\chi^2 = 40.49$ p-value < 0.01
File-sharing site	5 (16.1%)	26 (83.9%)	31	p-value > 0.05
Blogging	5 (3.1%)	23 (82.1%)	28	p-value > 0.05

Table 4. Parents' Behaviours Toward Children's Online Activities in the Urban (U) and Rural (R) Regions

Items	**Yes**	**No**
Discussing with friends about offspring's online activity	n = 148 U (35.6%); R (23.4%)	n = 322 U(64.4%); R(76.6%)
Spending time together while surfing the Internet	n = 155 U (34.5%); R (28%)	n = 324 U(65.5%); R(34.5%)
Being around while children surf the Internet	n = 143 U (34.8%); R (24%)	n = 316 U(65.2%); R(76%)
Encouraging children to perform self-discovery on the Internet	n = 206 U(49.4%); R(35.5%)	n = 255 U(50.6%); R(64.7%)
Sharing various online activities with children	n = 159 U(41.5%); R(20.9%)	n = 299 U(58.2%); R(79.1%)
Note: U = Urban; R = Rural		

Table 5. Parents' Allowances in Relation to their Children's Online Activities

Parents allow children to:	**Anytime – Even Without Parental Supervision**	**Only Under Parental Supervision**	**Not allowed**	**Do not know**
Send and receive instant messages	82 (19.1%)	87 (20.2%)	167 (38.8%)	94 (21.9%)
Watch video clips on the Internet	204 (43.4%)	144 (30.6%)	80 (17.0%)	42 (8.9%)
Download movies from the Internet	139 (29.1%)	82 (17.2%)	163 (34.1%)	94 (19.7%)
Possess a personal profile on social network sites	92 (19.9%)	53 (11.4%)	176 (38.0%)	142 (30.7%)
Send personal information to other people on the Internet	50 (10.8%)	54 (11.7%)	234 (50.6%)	124 (26.8%)
Share multimedia files with other people on the Internet	97 (20.5%)	56 (11.8%)	192 (40.6%)	128 (27.1%)