

An Investigation into Mobile Phone Usage and Guidance Strategies for Rural Elementary School Students in Remote Areas

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Abstract

With the popularization of mobile devices, cell phone usage by rural elementary school students has become a common phenomenon in China. However, excessive use of cell phones may negatively impact children's healthy development. This study aims to investigate the current situation of cell phone usage among rural elementary school students and provide guidance for schools and families. Questionnaires and interviews were conducted with students from grades 4-6 and teachers in a village school in Liangshan Yi Autonomous Prefecture. The results revealed that while cell phone addiction was not prevalent, students lacked self-awareness of appropriate usage boundaries. Over half of the students could not recognize their excessive cell phone use. Students' main purpose of usage were entertainment and socializing. The study suggests enhancing communication between school and family, carrying out cell phone usage education, and providing emotional companionship to students. With timely guidance, students can learn to use cell phones rationally and avoid adverse effects on learning and life.

Keywords

Cell phone use; Elementary school students; Countermeasures.

1. Introduction

With the development of the level of science and technology, the functions of cell phones become more and more perfect, and the features of cell phones, such as entertainment and portability, are loved by the public. However, under the background of frequent use of cell phones, a large part of people have also become dependent on cell phones. As the aborigines of cell phone use, nowadays elementary school students have an inherent advantage in the use of cell phones, and at the same time, the phenomenon of elementary school students' cell phone use has become more and more prominent, which will bring about some impacts on elementary school students' learning and life.

The Children's Blue Book: a report on the development of children in China (2019) shows that the irrational use of electronic products is currently the most prominent problem faced by children in urban and rural areas in their actual lives, and relevant data show that children in

urban and rural areas use mobile devices, for entertainment, for a longer period of time[1]. In the context of the rapid development of Internet technology, the phenomenon of primary school students using cell phones has become more and more common, children in remote areas due to a number of practical factors, parents are unable to strict requirements, grandparents are even more incapable of supervision, so the use of cell phones for a long time, the proportion of dependence on cell phones is higher. Xiao Zengke (2020) suggests that mobile social media has become the primary platform for communication, emotion regulation, information acquisition, and recreation for left-behind youth in Tibetan areas of Sichuan, and the tendency of their mobile social media use to be recreational is obvious, with left-behind youth having a significantly higher intensity of mobile social media use and degree of dependence than non-left-behind youth.[2] The intensity and degree of reliance of left-behind youth on mobile social media are significantly higher than those of non-left-behind youth. According to China Rural Revitalization Comprehensive Survey and Research Report 2021, more than 90% of rural households in China own at least one smartphone. Rural primary and secondary school students' access to and use of smartphones has also increased significantly. Negative news such as cell phone addiction and game addiction among rural children, especially the smartphone use of rural left-behind children, once became a hot topic in society[3].

2. Research Methodology

In order to further understand the cell phone usage of rural elementary school students in remote areas, this study selects the 4th-6th grade students of a rural elementary school in remote areas as the research object. The 4th-6th grade is the critical period of habit formation for primary school students, and prolonged and incorrect use of cell phones will easily lead to the formation of bad habits, which will have a direct impact on their future study and life.[4] This will directly affect their future study and life.

2.1. Research tools

In this study, the questionnaire and interview methods were used to study the cell phone usage of rural children in a remote mountainous county, in order to enrich the research related to the cell phone usage of rural children. The study investigates students' cell phone use and its impact on their studies, analyzes the reasons for their dependence, and proposes countermeasures for school management.

2.2. Investigation process

The questionnaires were distributed to students in grades 4-6 of a rural elementary school in a remote area, and paper questionnaires were distributed to 80 students on the spot for the survey, and 60 valid questionnaires were collected. The collected questionnaires were numbered, and the data were statistically analyzed by SPSS software. The questionnaires covered the source of cell phone use, time of use, function preference, students' own knowledge of cell phone use, parents' or teachers' supervision of cell phone use, and the negative effects of cell phone use.

The interviews were conducted face-to-face or by video with five teachers, including language and math teachers and classroom teachers of the school section. The teachers' interviews were recorded by voice recording, and the audio files were converted into transcripts for organization and analysis. The main contents of the interviews include: teachers' observations of students' cell phone use, reasons for using cell phones, impact on learning and life, problems and suggestions and experiences.

The combined use of both questionnaire survey and teacher interviews provides a more comprehensive and in-depth understanding of students' cell phone use, as well as an

understanding of teachers' attitudes toward students' use of cell phones, which provides a wealth of primary data for the study.

3. Results and Analysis

3.1. Cell phone use by students

80% of students use cell phones that belong to their parents, 12% use cell phones that belong to relatives, and 8% own their own cell phones. 76.7% of students in grades 4-6 use cell phones for less than one hour per day; 13.3% use cell phones for 1-2 hours; 3.3% use cell phones for 2-3 hours; and 6.7% use cell phones for more than 3 hours. The percentage of using cell phones for more than 3 hours is 6.7%. In addition to this, students who use cell phones for more than 3 hours a day say that no one specifies the time of cell phone use.

Table 1. Students' self-assessment of excessive cell phone use

Whether or not you use your cell phone excessively	grade	grade			(grand) total
		fourth grade	fifth grade	sixth grade	
be	reckoning	3	3	0	6
	Percentage of grades	11.1%	21.4%	0.0%	10.0%
clogged	reckoning	7	2	8	17
	Percentage of grades	25.9%	14.3%	42.1%	28.3%
inconclusive	reckoning	17	9	11	37
	Percentage of grades	63.0%	64.3%	57.9%	61.7%
	reckoning	27	14	19	60
	Percentage of grades	100.0%	100.0%	100.0%	100.0%

As shown in Table 1, most students were not sure if they were spending excessive time in using their cell phones. 42.1% of the sixth grade students do not think they use their cell phones too much time. During the interviews, teachers said, "Some children want to play with cell phones, and parents don't care what kind of tool the cell phone is, but just want to play with it. Some of the children's parents work abroad to earn money to support their families, so the children are left behind, and the only way for them to communicate with their children is through the cell phone, and they buy cell phones for their children to use for daily calls and communication. The only way they can communicate with their children is through cell phones, which they bought for them for daily calls. In fact, they don't care what the children use the cell phone for, how to use it, and how long to use it."

It can be seen that students who own cell phones alone account for a minority, most students still use cell phones at home, and most students use cell phones for a limited period of time. Due to the influence of practical factors, parents do not restrict the use of cell phones for students, students use cell phones without reasonable regulations on the use of time, students use cell phones by their own management of time, students lack of self-control ability, and do not know their own use of cell phones behavior is reasonable use of cell phones.

3.2. Purpose of Students' Cell Phone Use

As can be seen from Table 2, fourth-grade students mainly use their cell phones to watch videos in the process of using cell phones; fifth-grade students mainly use their cell phones to play games and watch videos in the process of using cell phones; and sixth-grade students mainly use their cell phones to watch videos and look up information in the process of using cell phones, which accounted for 36.6% and 29.3% of the students of that grade, respectively. From the overall data, 43.0% of the students chose to watch videos in the purpose of cell phone use.

During the interviews teachers stated:

Table 2. Cell phone feature usage preferences by grade level

		Cell Phone Feature Usage Preferences ^a			
grade		play games	Watch the video	do	search for information
fourth grade	frequency	7	23	4	3
	Percentage of cell phone feature preference	28.0%	50.0%	30.8%	13.0%
fifth grade	frequency	10	8	3	8
	Percentage of cell phone feature preference	40.0%	17.4%	23.1%	34.8%
sixth grade	frequency	8	15	6	12
	Percentage of cell phone feature preference	32.0%	32.6%	46.2%	52.2%
(grand) total	frequency	25	46	13	23

Percentages and totals are based on responders.
a. The value 1 has been used for tabulation in subgroups II.

Teacher A: "Most of the children in this area are left-behind children, and very few of them have cell phones, and if they do, they only contact their families."

Teacher B: "Part of their cell phone use is to use parents' WeChat to communicate with teachers about learning problems or homework problems. Then our students often use the teacher's cell phone to buy clothes, shoes and other items on Pinduoduo, using the form of online shopping to buy daily necessities, so this part is also what they need."

Teacher C: "I think there should be more than 80% of the current students they know about Racer."

It can be seen that there are some differences in the purpose of cell phone use among students of different grades. The behavior of primary school students' cell phone use is universal, and the purpose of using cell phones will shift with age. Most students use it for entertainment, watching short videos and playing games.

3.3. Impact of cell phone use on students

The impact of cell phones on students' lives and studies was divided: on the one hand, nearly half of the students said that using cell phones affected their concentration and the progress of their studies (48%), and on the other hand, some of the students said that using cell phones had an impact on their sleep (23%). When it comes to whether or not to reduce the number of hours of cell phone use, half of the students said they wanted to reduce cell phone use (50%), most of the other part of the students said they were not sure (33%), and only a small part of the students said they did not want to reduce it (17%).

During the interviews teachers stated:

Teacher A said: Now that we are in the age of information technology, some parents who work outside the home will contact their children through cell phones, sending red packets and transferring money to pay for their children's living expenses. Therefore, the main use of cell phones by children is to contact their parents who work outside and to receive money transfers from them. Not many children use cell phones for other purposes, but these are the two main areas, and nothing else.

Teacher B said: "When students feel that studying is not so stressful, they will take their cell phones at night to watch dramas, catch up with dramas, catch up with dramas until very late in the evening, they may finish watching a drama or a cartoon at night, see it very late, and then come in the next morning, they are listless, they are sleeping, and they start to doze off when they go to the first class."

Teacher C: My personal analysis is that, for students, cell phones do provide access to some content related to teaching and learning, but it may also be an emotional need, for them, an emotional attachment, a need for companionship. The help that students get from cell phones also includes an emotional help.

Teacher D said: "The information that students get from short video platforms using cell phones are fragmented pieces of information, and the information on the Internet is also mixed. After all, students, especially primary school students, are still in the developmental stage, and their ability to differentiate and realize is still relatively weak, so they are easily influenced by these messages. There are some inducing information that going to work at a young age can satisfy their material needs at the present stage. For example, he saw some people in the village posted jitterbugs saying that life in the city is quite happy now, earning three to four thousand dollars a month, you can drink and have fun. After seeing this kind of video, students will have a kind of idealized life that seems to be quite happy even if they don't study. There are also telecommunication frauds that students may fall for. Like my former students in junior high school they will also receive this type of information, such as how much money you transfer to me, I give you back how much interest, there are students door to door to be cheated."

Teacher E said: "The students are still in elementary school, their oral expression has not reached the kind of can accept a large number of network hot words, there is no way to correctly use these words, the vocabulary itself is not high, so when they write homework, such as writing like a diary, writing homework, will write and write some of the hot words, or even write and write some popular words, which will cause some impact on their expression of writing exercises and oral expression, will cause some impact on their expression of writing exercises and oral expression. Some homophones, or words popular on the Internet, will have a certain impact on their expression, writing and oral expression.

In general, students generally responded to the impact of cell phone use, but compared to their vague perceptions, teachers generally observed that the use of cell phones by children in rural areas has its own characteristics. First of all, the frequency of use is relatively low, mainly concentrated on left-behind children, and the purpose of use is mainly to contact their parents who go out to work. To a certain extent, the use of cell phones also satisfies children's emotional needs. However, excessive use of cell phones can have negative impacts on children, such as staying up late to play with cell phones, which can damage their study results, and the negative impacts of Internet language. Due to their lack of self-control, children often find it difficult to control the duration of cell phone use without teacher or parental supervision (see Table 3). Teachers suggested that families and schools should strengthen their care and guidance for children, cultivate their self-management ability, and learn to choose the appropriate time and content of cell phone use in order to avoid the adverse effects on learning and life.

Table 3. Parent or Whether to Regulate Cell Phone Use Hours vs.

Whether parents or teachers set cell phone use times		The amount of time spent using a cell phone per day is approximately			
		1 Under one hour	1-2 hours	2-3 hours	More than 3 hours
there are	reckoning	24	5	1	0
	Percentage of time spent on cell phone use per day approx.	52.2%	62.5%	50.0%	0.0%
hasn't	reckoning	22	3	1	4
	Percentage of time spent on cell phone use per day approx.	47.8%	37.5%	50.0%	100.0%
(grand) total	reckoning	46	8	2	4
	Percentage of time spent on cell phone use per day approx.	100.0%	100.0%	100.0%	100.0%

3.4. Summary and Discussion

In summary, the use of cell phones in primary schools has become a common phenomenon, and some students have misconceptions and blind spots in the use of cell phones. Students who have been using cell phones for too long lack a clear understanding of cell phone use behavior and have not formed a scientific concept of use. The purpose of cell phone use varies from grade to grade. Without the intervention of parents or teachers, students who use cell phones for a long time are unable to regulate the length of time they use cell phones and lack self-control ability.[5] Students' knowledge and norms of cell phone use. Students' knowledge and regulation of cell phone use is still lacking, which poses a hidden danger to their healthy development. Effective measures need to be taken to guide students to establish correct concepts of use and improve their self-control ability, so as to realize the positive application of cell phones.

Teachers tended to pay more attention to the negative impacts and problems of cell phone use, while students' self-assessment of the impacts of use was more positive. In addition, teachers mentioned individual cases of severe dependence on cell phones, which requires stronger communication and collaboration between home and school to guide students to use cell phones in a scientific and rational way.[6] Teachers also mentioned that there were some cases of severe dependence on cell phones. At the same time, teachers also mentioned that the use of cell phones satisfies the emotional and companion needs of some rural left-behind children, and this issue also needs to be emphasized.[7] The teacher also mentioned that cell phone use meets the emotional and companion needs of some rural left-behind children, and this problem also needs attention. Finally, there is still a relative lack of practical experience in the use of cell phones, which needs to be further analyzed and explored.

4. Responses and Recommendations

Rural primary school students in remote areas have established a bridge of communication with the outside world through cellular phones. However, due to age and environmental limitations, most rural primary school students have not yet formed the ability to distinguish right from wrong and resist temptation, and are easily influenced by the external environment, resulting in the idea of dropping out of school or going out to work, which is extremely unfavorable to their healthy growth and requires timely intervention by families and schools.[8] This is extremely unfavorable to their healthy growth and requires timely intervention by families and schools. In order to help rural primary school students to regulate the use of cell phones and establish correct values, this study will explore the three aspects of strengthening the communication and cooperation between families and schools, carrying out education on the rational use of cell phones, and meeting the students' emotional needs and accompanying them, and put forward specific countermeasures and suggestions. This will not only help guide primary school students to plan their lives rationally and clarify their life direction, but also provide a basis for school decision-makers and educators to formulate effective policies, thus promoting the healthy development of rural primary school students.

4.1. Strengthening communication and cooperation between families and schools

First of all, teachers should, through regular or irregular home visits, fully understand the details of students' use of cell phones at home, such as the time period of use, the length of use, the content of browsing and the purpose of use, etc., so as to carry out the next step of work in a targeted manner. Secondly, the school should also hold regular parent-teacher conferences to help parents understand the importance of cell phone education through thematic education and analysis of typical cases, so as to enhance their awareness and ability to guide their children

in the correct use of cell phones. Specifically, the school can focus on the current hot and difficult issues, take the education guidance video, organize related topics for discussion, simulation of educational scenarios and other ways to carry out thematic education, in order to inspire parents to take the initiative to learn cell phone education methods. Finally, under the guidance of the concept of continuous work, teachers should strengthen informal exchanges with parents, become a person who knows and cares about the students' learning and life, and provide timely feedback to parents on the students' performance in and out of school, so as to help parents understand their children's dynamics comprehensively and be able to take targeted guidance measures, thus promoting the establishment of benign communication and supervision mechanisms between schools and families.

4.2. Education on the rational use of cell phones

Schools can set up special cell phone use education courses or joint interdisciplinary teaching with other courses, following the principle of unity of knowledge and action, not only to teach the scientific knowledge of cell phone use, but also to cultivate students' disciplinary literacy and self-discipline. For example, in the unit of Knowledge of Large Numbers in the first book of the fourth grade of the Humanistic Version of Mathematics, some data appearing on the cell phone, such as the number of live broadcasts, the number of followers, the number of likes, the number of comments, etc., can be combined with teaching, which can not only satisfy the curiosity of the students but also set up a good view of the use of cell phones through the correct guidance of the teacher.

In terms of knowledge transfer, teachers can systematically teach the benefits, drawbacks and norms of cell phone use in the form of thematic class meetings, so as to enhance students' awareness of safety precautions and their ability to distinguish between right and wrong. For example, instructing students to pay attention to high-quality and positive anchors in short-video software, and discussing the mechanism of game addiction with students in mobile games. In terms of capacity development, we can set up situational simulation scenarios, such as the use of drama to bring students into the use of cell phones in both positive and negative cases of the characters, to experience their use of cell phones brought about by the different feelings, which at the same time can also exercise self-restraint, refusing to undesirable temptations and other abilities. In addition, schools can also organize lectures, knowledge contests, speech contests, debates and other activities to incorporate the knowledge of cell phone safety and rational use.[9] In addition, schools can organize special lectures, knowledge competitions, speech contests, debates and other activities to incorporate knowledge of cell phone safety and reasonable use. These initiatives not only enrich the content of classroom teaching, but also enable the new concept to penetrate into the hearts of students through a variety of channels.

4.3. Meet students' emotional needs and companionship.

First of all, teachers should care about every student, establish a close teacher-student relationship with them in daily teaching and life, take the initiative to talk with students after class, fully understand the students' family situation, living habits and learning dynamics, and find out their difficulties and give them timely help. Secondly, for students who have serious problems with cell phone use, teachers should also take the initiative to actively carry out all kinds of activities, give students care, encouragement and emotional support in collective activities, and meet their normal emotional needs.[10] In addition, the school should organize rich and varied activities. In addition, the school should also organize a variety of extracurricular activities, such as "accompanying growth" as the theme of the teacher-student fellowship activities, summer and winter vacation camps, sports, etc., so that students in the interaction to feel the love and companionship of the teacher and partners, to cultivate their social-emotional capacity, so that students no longer rely on the cell phone virtual

communication, and finally achieve the purpose of guiding students to grow up healthily. The purpose of guiding students to grow up healthily.

5. Author Contributions

This paper was jointly completed by Zhang Jingxiao, Geng Yifan, Zhang Jiabao. Everyone has made equal efforts in the research of this topic, and their contribution to the paper is average. It is hereby explained.

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