

Research Article

Application of Industrial Communication Device-Based Mobile Learning in Ideological and Political Education

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Mobile learning theory and the demand analysis of mobile learning systems for ideological and political education at universities are presented in this study. The study analyses the use of mobile learning based on industrial communication devices (ICDs) in ideological and political education by doing research on mobile development technology and mobile learning systems. ICD-based mobile learning platforms can be used for ideological and political education by conducting a questionnaire. The main advantage of using this ICD-based mobile learning platform is the teaching and learning process will be continued under any circumstances. Even if the teacher and the students are in distant location, secured access privileges can be provided for effective communication for the processes. For ideological and political education, a remote supervision algorithm was developed to evaluate the performance of industrial communication devices. The proposed algorithm generated 90% more accuracy than the current technique.

1. Introduction

Students can benefit from new learning opportunities provided by mobile devices, such as learning that is contextualized, individualized, and not constrained by time or space. Students can benefit from mobile learning in a variety of topics, including science, math, history, and art. There has been a growth in the level of interest in examining the breadth, purpose, and scope of mobile learning in education as a result of the increasing availability of gadgets [1]. Learning in higher education has evolved as a result of the growth of mobile learning (M-Learning). With M-Learning, teachers and students may work together from any location at any time. Decision-makers benefit from a positive attitude toward M-Learning, which aids in the construction of the necessary infrastructure. Smartphones and other mobile devices can make a big contribution to the current education of healthcare professionals. There are computer and mobile device apps available [2]. Dental students' critical thinking skills for prosthodontic rehabilitation planning were honed

with the use of the mobile app that was evaluated in this study. For university students, mobile learning (mobile learning) has been proposed as a way of dealing with issues related to mobile device coverage, mobility, accessibility, and interactivity [3]. In order to better understand the spread of virtual learning tools among students, further research is needed on the elements that influence students' decision to use, appropriate, and share mobile learning resources. Teachers may need to develop more sophisticated notions of mobile learning [4] if mobile devices are to have a transformational impact on education. Teachers' perceptions of mobile learning were examined in this study. In the end, six distinct types of mobile learning emerged from the research. The findings indicated a progression from teacher-centered to learner-centered [5]. Sophisticated concepts no longer recognized the importance of technology. Using technology to enhance current practice was a common assumption among teachers. It is noteworthy that ideological and political education in universities appears to be developing slowly on the Internet [6].

Since the Internet's rapid development, people's everyday habits, values, and views on life have changed greatly. As a result of our socialist modernization architects and their offspring, college students are the Internet's most important users. College students may now learn about different cultures thanks to the internet. It is impossible for anyone else to stay on top of current events and locate all the data they need [7]. As a result, the Internet is providing a wide range of new educational options. Ideology and politics have never been more accessible for college and university students because of a wealth of material, methods, and forms available on the Internet today [8]. In-depth training in politics and ideology allows instructors to better understand the psychological and ideological issues college students face. In an open and diverse network atmosphere, students' values, political views, personalities, and beliefs are severely influenced. When it comes to ideology and politics, China's education system has been heavily influenced by the Internet [9]. As a result of China's failure to meet international standards in ideological and political education, the mental health of Chinese college students is adversely affected [10]. As long as China's higher education institutions do not strengthen their ideological and political education by taking advantage of the network media's enormous impact in the country, it will be impossible for China's workforce of the future to be morally and culturally competent [11].

The term "mobile network education" refers to education that occurs in a mobile learning environment or using mobile learning tools. In contrast with fixed education, mobile network education provides mobility, flexibility, and convenience. Mobile and fixed education has progressed together throughout human history. It refers to the teaching of both words and actions in the early stages of mobile education, the second, third, fourth, and fifth generations of mobile education [12]. There is a second wave of mobile education that uses printed books and mail courses. The third generation of mobile education is characterized by the use of wireless broadcasting and "Walkman" instruction. To deliver instructional content in the fourth generation of mobile education, television and DVDVCD are combined with educational content. There are several instances of educational technology that include wireless networks and mobile information tools like mobile phones, palmtop computers, and electronic school bags. The phrase "mobile education" is the most commonly used to describe this sort of education. This will lead to improved mobile learning tools in the future that are more convenient, diversified, and efficient.

Science of mobile networks has an impact on ideological and political education. Because of the ease and accessibility of the mobile Internet, many college students are no longer able to accept the mechanically taught beliefs and philosophies of college and university lecturers and professors [13]. It is possible for pupils to question what they are learning if teachers are not engaging or open to fresh ideas. Learning on their own rather than in a classroom is more appealing to them. As a result of educators' sensitivity to new things and varied settings, they are slow to adopt the mobile Internet under limited energy and cannot respond in time to educational advancements. A lack of knowledge and awareness of technology can lead to a

lack of technical proficiency and other issues. Using the mobile Internet to learn about other countries' cultures, beliefs, and daily lives is becoming more and more common among college students these days [14]. The values and outlooks of college students are still in their infancy. Cultural colonization by Western countries, in particular, will have an impact on the beliefs and attitudes of college students [15].

The emergence of a value chain during the commercialization of the mobile Internet may also be a factor in the proliferation of violent and obscenity-laden virtual games. College students' ideals and approach toward life will suffer as a result. Basically, "mobile Internet" is a term that describes the connection between mobile devices and the Internet. There are more sources to choose from, and information can be shared more openly [16]. It is possible that both mobile phone users and regular Internet users are at fault. It is more likely to come from the source. In the future, it will be substantially more difficult to regulate mobile Internet information than it is to control the traditional Internet, which uses IP address terminals. Because the regulatory technology is still in its infancy, the country and society have only a limited amount of control over mobile Internet. As the actual world and the network world become more intertwined, there are also more exchanges and more obstacles in the mobile Internet environment. Network security's openness will make ideological and political education work contexts more difficult [17]. Ideological and political education educators can use the mobile Internet to access a wide range of multimedia resources, from sound samples to full-length videos that can be seen at any time of day or night, anywhere in the world. Students' political and ideological education can benefit from moving from a static to a dynamic mode of instruction. In addition to searching for what they need, college students can download and listen to lectures from experts in the fields of philosophy or politics in a timely manner thanks to the mobile network. Students' political literacy and ideological character were once the primary goals of ideological and political education. There is a shortage of new ideas and appeal to ideological and political education because of this. A lack of interest from students is evident. When it comes to addressing the issues that matter most to college students, ideological and political educators should take full advantage of the mobile Internet's multimedia tools [18]. This research intends to evaluate the use of mobile learning based on industrial communication devices in ideological and political education. Education in colleges and universities is evolving in response to technological advancements in the teaching and learning process (TaLP). In this scenario, new technologies for new courses are having some difficulty meeting the TaLP's requirements. In this research, ideological and political learning courses are being attempted to be introduced in colleges and universities. On the machine learning dataset of the student's experience, performance analysis is performed using the implementation of a remote supervision algorithm. The proposed system's accuracy is evaluated and discussed. The remote supervised algorithm is easy to analyse for the online and offline IPE students to benefit from moving from a static to a dynamic mode.

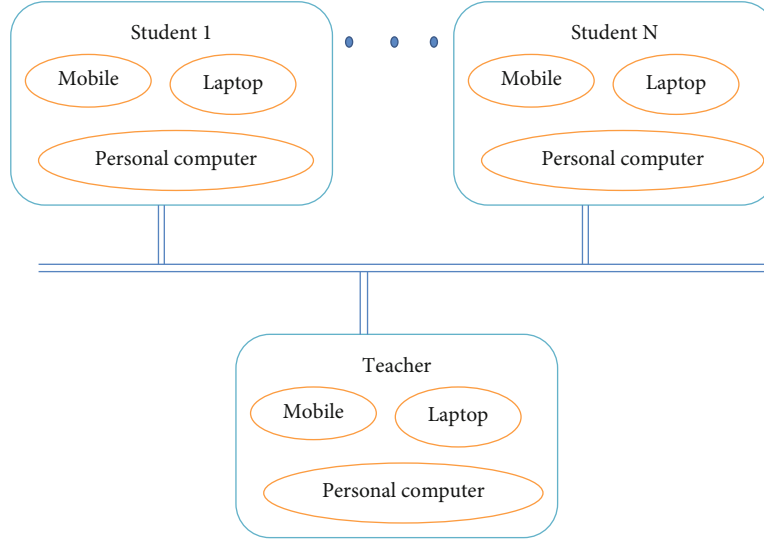


FIGURE 1: Framework for the proposed system.

2. Proposed Architectural Model for Teaching

Teaching and learning mechanism for any course has to be made available at any point of time for easy access by the student and the teacher. Most of the teachers and the students are comfortable and got practiced to the traditional classroom studies, as this mechanism allows face-to-face interaction among the students and the teachers. As the technologies are progressing, the teaching and learning mechanism has to get upgraded to the technology. Initially, the student and the teachers may face difficulties in the upgradations, but later, it may become the most promising mechanism for teaching and learning. In this developmental stage, the proposed model utilizes the industrial communication devices (ICDs) to provide mobile learning of ideological and political education. There are several ICDs available; it is the mechanism through which the communication is processed with the support of Internet in the mobile. The teaching and learning are progressed by implementing mobile application with Internet facility that works as wireless sensor network technology. In this work, the teacher and the student may be available at remote areas facilitated with Internet and mobile with mobile application (refer to Figure 1). Both the teacher and the student have to register themselves to participate in the scheduled course in the scheduled duration. Later, their authentication is required to access the resources. Both of them are considered to utilize only mobile Internet as teaching mode through applications. It is also assumed that the network is stable and no network delay is available.

3. Methods and Data

The investigation into ideological and political education focuses on determining how academic institutions controlled continue providing knowledge during the academic would have to correspond to the teaching experience to solely online teaching and learning in a relatively short

period of time. We investigated students' perceptions of online learning, their ability to assimilate information, and their use of educational learning platforms in this regard. An online survey based on a moderately structured questionnaire was conducted. Data was provided by 382 students from academic institutions. Mobile learning can provide the function of one-click download, which saves the time to take notes in class and brings a lot of convenience to learning. Meanwhile, Internet technology also supports massive learning videos to be saved and downloaded. Students can watch some crucial content repeatedly without bothering the teacher to explain them for many times. It brings convenience to both teachers and students, enhances students' understanding and memory, greatly improves the learning effect, stimulates students' initiative and enthusiasm, realizes the maximum utilization of educational resources, and cultivates students' desire to explore knowledge and self-study ability.

The observation means is for male or female represented by (a_1, a_2) . The similarity between a and the database of college students in $\|a\|$ is demonstrated in

$$w = \left[\frac{a_1}{\|a\|} + \frac{a_2}{\|a\|} \right]. \quad (1)$$

δ is specified for this as the functional derivative with regard to the a function assumed to be a variable and the independent ε , while other functions are kept unchanged as in the following:

$$a_i = \delta_0 + \delta_1 T a_i + \varepsilon o_i. \quad (2)$$

In Equation (3), φ is representing the first limit ordinal denoted by this symbol. It is signified ω and identifiable by the organised variety of environmental percentages.

$$\varphi = e^{-k\omega\tau} = e^{-k\omega(p \sin \theta/s) = e^{-k2\pi(p \sin \theta/\lambda f_0) f}. \quad (3)$$

$p \sin \theta/s$ is the sense of tasks in education systems, ideological and political education, which has obscured.

k represents the mean which is the direction of vector.

λf_0 represents the standard deviation example.

τ is composed of random example.

Here, w the function of human desire has blurred.

If we describe $a = (a_1, a_2)$ and $w = (a, -1)$, we acquire the following:

$$h(a_i) = \begin{cases} +1 & \text{if } w \cdot a + b \geq 0, \\ = 1 & \text{if } w \cdot a + b < 0. \end{cases} \quad (4)$$

The remote supervised algorithm $\int_{n_0}^{n_0+N_0} \forall_{n_0} \geq 0$ will be executed into wireless communication technology and analyse ∂_1 classroom training optimization methods. Researchers would specifically describe the graph's method of construction and also the relating optimization method based on U^N supervised multiprocessing learning.

$$\partial_1 \|k\|^2 \leq \int_{n_0}^{n_0+N_0} |U^N(\tau)k|^2 ab(\tau) \leq \partial_2 \|k\|^2, \quad \forall_{n_0} \geq 0, n \in C^p. \quad (5)$$

The computation grows as $\partial_1 \|k\|^2$ the structures lengthen throughout this method of probability computation as given in Equation (5). The parameters are $|U^N(\tau)k|^2 ab(\tau) \leq \partial_2 \|k\|^2, \forall_{n_0} \geq 0$ to quantify on current hardware. The presence $f^p(n)$ of such a sentence is determined by the word preceding it and is given in

$$f^p(n) = \lim_{g \rightarrow 0} \frac{1}{g^p} \sum_{q=0}^p (-1)^q \binom{p}{q} f(n - qg). \quad (6)$$

The sentence is determined solely $-\text{sent}(\nabla^a a / (|\nabla^a a| + t))$; the two or more words preceding it are given in

$$-\text{sent}\left(\frac{\nabla^a a}{|\nabla^a a| + t}\right) + \lambda_e (a - a^0) = 0. \quad (7)$$

In Equation (8), $q_i(g)$ represents the student's language quality objective which represents the difference between the student's language stage and the difficulty to learning resources.

$$q_i(g) = \frac{f_i n_i - \text{bad}(g)}{\text{good}(g) - \text{bad}(g)}. \quad (8)$$

The learner's progress is represented by $E_i^n(n)$; the distinction between helps the audience understand enclosed within learning resource as well as the knowledge notes the learner wants to acquire. The smaller the difference, the more closely the learning resource's expertise points match $\text{randam}_j E_{ij}^n(n)$ the learner's knowledge points as given in

$$E_i^n(r) = \sum_{j \in L} \text{randam}_j E_{ij}^n(r). \quad (9)$$

The current ideological and methodological education framework is unable of meeting the needs of university, ideological, and political student growth given in the following:

$$\varphi = e^{-k\omega\tau} = e^{-k\omega(p \sin \theta/s) = e^{-k2\pi(p \sin \theta/\lambda f_0)f}}, \quad (10)$$

$$\varphi = e^{-k2\pi(p \sin \theta/\lambda)}. \quad (11)$$

The application of Θ_j big data and information sharing in IP education and also how much data will be used and obtained to be useful, thereby assisting the industry in increasing its profits, is given in Equation (12). As a result, defining big data and mobile learning p_j^i clarifies how well these various concepts have been T_{ij} classified as in Equation (13).

$$\begin{aligned} \Theta_j &= \sum_{i=1}^m T_{ij}, \\ \Theta_j^{-i} &= \sum_{p \neq i}^m T_{ij}. \end{aligned} \quad (12)$$

Students think that education seems to be the objective and also that the topic of education is about more than education; advancement, admiration, recognizing, service, and support enable students to enhance their skills.

$$p_j^i = \frac{p_{ij}}{S_j a_j^i} = K_j^i + K_j^i \frac{\theta_j^i}{T_{ij}}. \quad (13)$$

To perform deep learning data analysis as well as extract its most value from the information by analysing as well as modifying fundamental data,

$$\varphi = \sum_{j=1}^n T_j^i \leq F_0, \quad \sum_{j=1}^n p_j^i \leq U_0. \quad (14)$$

Because data processing is generally more advanced as well as the quantity of free information is somewhat large, deep learning models struggle to identify patterns in data. Students believe education is the primary objective and that education includes not only education but also assistance, development, recognition, understanding, service, and cooperation, which enables students to achieve

$$\mathcal{L} = \varphi + \lambda_e^i \left(\sum_{j=1}^n T_j^i - F_0 \right) + \lambda_t^i \left(\sum_{j=1}^n p_j^i - U_0 \right). \quad (15)$$

Education should be centered on communist ideology and methodology $\mathcal{L} = \varphi + \lambda_e^i$, with the goal of freeing people from current framework shackles and establishing $\partial \mathcal{L} / \partial T_{ij}$ (refer to Equation (16)), a rational framework as the primary goal of political and intellectual learning.

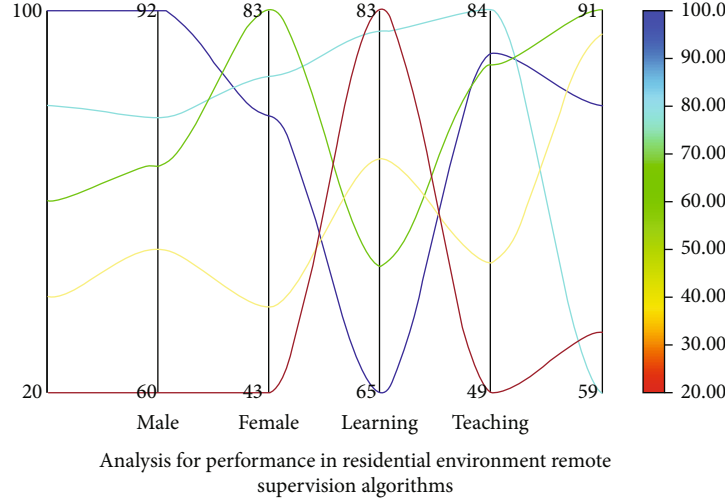


FIGURE 2: Analysis for performance in residential environment for using remote supervision algorithms with deep learning.

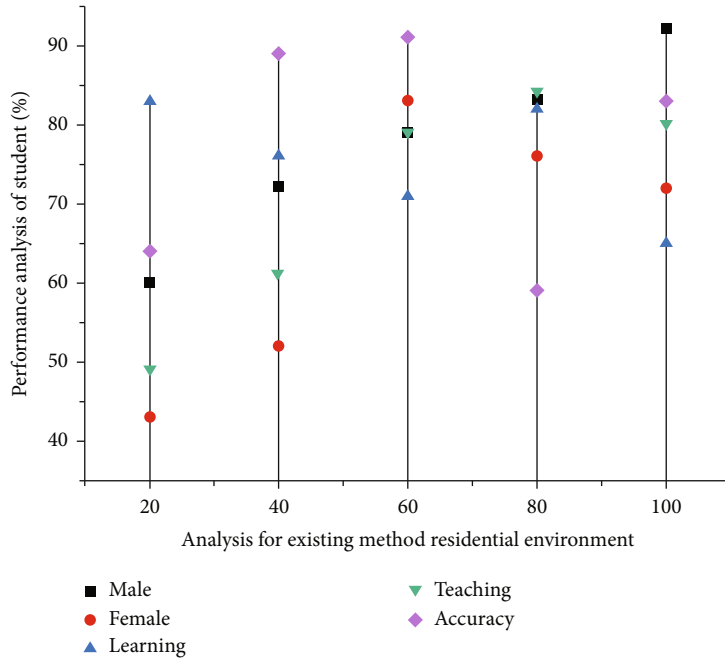


FIGURE 3: Analysis for existing method residential environment for IPE.

$$\frac{\partial \mathcal{L}}{\partial T_{ij}} = \frac{\rho_e}{\rho_e + \rho_t} \cdot \frac{K_j^i}{\sum T_{ij}^i} - \frac{\rho_t}{\rho_e + \rho_t} \cdot \frac{K_j^i \theta_j^{-1}}{\sum p_j^i T_{ij}^2} + \lambda_e^i K_j^i - \lambda_t^i K_j^i - \lambda_t^i \frac{K_j^i \theta_j^{-i}}{T_{ij}^2} = 0. \quad (16)$$

4. Results and Discussion

According to the previous definition of mobile learning devices, mobile learning devices based on network services (smart phones, tablets, and PC) can carry various apps to learn anytime and anywhere, showing great flexibility. Moreover, it can systematize the learning content and make the learning more interactive and shared. Users can independently decide the content and place of learning and build their own learning framework and build their own learning

units. In order to evaluate the study objectives, the remote supervision algorithm has been used.

Remote supervision is used to classify the dataset male and female residential environment for learning and teaching education for IPE. It gets result for teaching male of accuracy 64% and female of accuracy 57%, another one getting result for learning male of accuracy 75% and female of accuracy 70%. The ideological and political education to investigation focuses on deep learning method to determine how academic institutions managed to provide knowledge during the academic (refer to Figure 2).

To classify the existing method using the dataset male and female residential environment for teaching and learning in IPE, it is getting result for teaching education of male of accuracy 63% and female of accuracy 56%, another one

TABLE 1: Remote supervision algorithms with deep learning respondents' classification residential environment male and female characteristics.

Parameters	Classification	Count	Percentage (%)
Gender	Male	169	85.15
	Female	184	89.42
Residential environment	Teaching	129	46
	Learning	185	82
Education	School	362	95.75
	15–22 years	95	17.73
Activities	Extracurricular activities	316	65.4

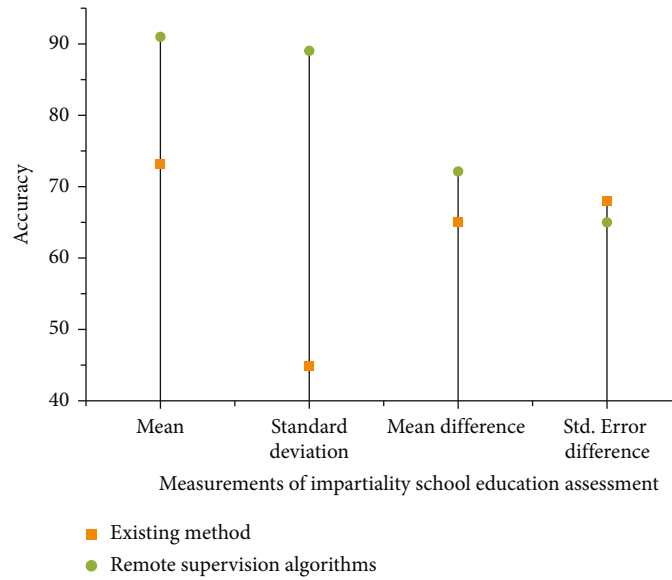


FIGURE 4: Performance analysis for measurements of impartiality school education assessment.

getting result for learning male of accuracy 79% and female of accuracy 72% (refer to Figure 3).

The ideological and political education to investigation focuses on determining the performance. It compares the result analysis for existing work with the proposed algorithm. The performance results indicate that remote supervision algorithms with deep learning generate good accuracy (refer to Table 1).

The report's population comprised 382 students from two of the largest high schools and colleges in a nonprobabilistic manner. The majorities of people are female, between the ages of 15 and 22, from cities, and are enrolled in primary school (Table 1). Nevertheless, 382 (89.43 percent) of the students were male and 169 (85.15%) were female, 184 (89.42%) were from learning, 129 (46%) were from teaching, and 185 (82%) were in education, with the remaining 316 (65.4%) in expert education (refer to Table 1).

In this study, we looked into students' perceptions of online learning, their ability to assimilate information, and their use of educational learning platforms in this regard. A moderately structured questionnaire was used to conduct an online survey. The performance analysis for the impartial

measurement test of school specifies the mean, standard deviation, difference of mean, and difference std. error difference values, and the analysis for that performance is based on these values. The investigation's ideological and political education focuses on determining the best one, which is represented by the remote supervision algorithms (refer to Figure 4).

Despite the difficulties they encountered, students believe that the traditional face-to-face method is the best way to carry out the entire teaching-learning process and also that the platform will be used as a complement to facilitate the educational process. Thus, 68.12% of students prefer facial expression teaching/learning, 59.31% prefer a mix of online and offline classes, and 18.83% prefer online-based learning/teaching (refer to Table 2).

The performance evaluation of the teaching-learning process is used, with E-learning framework serving as a supplement to such educational process. Thus, an overall quality analysis of 93% of students would recommend using remote supervision algorithms for first, second, and final grade teaching/learning on the dataset. Another for the existing performance analysis of 82% would favor a combination of online and offline classes, and remote supervision algorithms

TABLE 2: Impartial measurement test of school education.

Parameters	Number of students (N)	Mean	SD	Learning as well as teaching education (p)	t -test of mean equivalence	Std. error difference	Mean difference
Online environment	262	2.90	2.56	0.01	-1.63	0.65	-0.75
Online established learning/teaching	324	3.65	1.97	0.00	-2.46	0.34	-0.29
Platform practice	307	2.21	1.84	0.01	1.47	0.23	0.07
Platform effectiveness	296	3.23	2.52	0.01	-0.37	0.25	-0.43

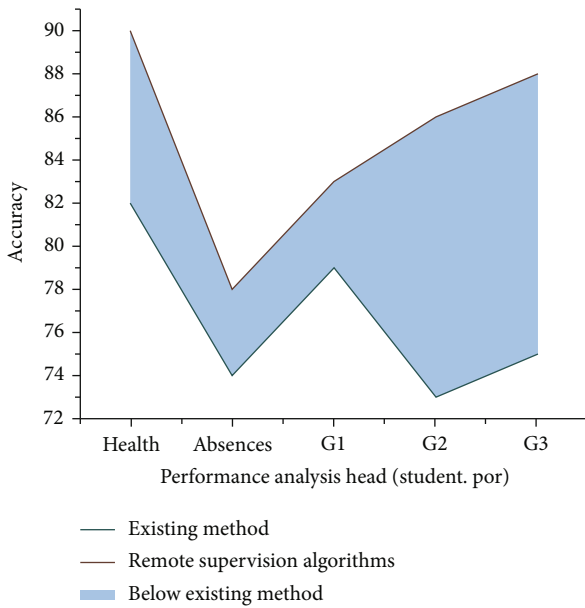


FIGURE 5: Performance analysis head.

is used to increase performance quality which would suggest online-based learning/teaching (refer to Figure 5).

The teaching method is evaluated in terms of performance, with the E-learning framework having to serve as a supplement to the educational process. Thus, based on the general performance of 95% of students, first, second, and final class degree teaching/learning using remote supervision algorithms is suggested for the dataset. Another one for existing performance monitoring for 76% would prefer a combination of digital and also in classes and remote supervision algorithms the best result would highly suggest available on the Internet learning/teaching (refer to Figure 6).

Our findings on the disadvantage of online learning are consistent with grade consumption. Students are easily distracted and lose concentration when teachers do not have well-implemented methods to keep them focused, and there is a lack of dataset with this method of study. Aside from advancements, environmental disruptive innovations such as noise from family members or neighbors and a lack of adequate learning space have an impact on the total amount of time students can concentrate while learning online (refer to Table 3).

The remote supervision algorithm and optimization method is used to accomplish deep learning data analysis and also to extract one of most importance from knowledge

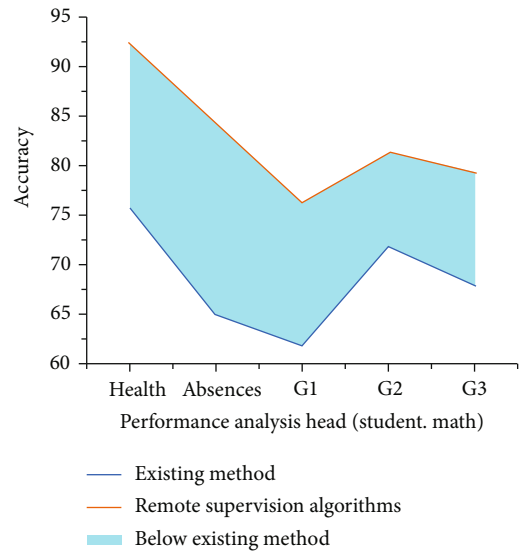


FIGURE 6: Performance analysis head.

TABLE 3: Result analysis: median scores as well as differences in political and ideological teaching statistics.

Student	Remote supervision algorithms Performance analysis (%)		
	Time (s)	Frequency	Accuracy (%)
Teaching recognition	3.7	0.823	96
Learning context	2.4	0.867	78
Effect of class room	2.8	0.761	67

by analysing as well as modifying fundamental information. Despite the fact that data processing is usually more advanced and the amount of free information is rather large, deep learning models struggle to describe patterns from data. Students believe that education is the main objective and also that education also contains guidance, evolvment, recognition, understanding, distribution, and teamwork, which all help students succeed (refer to Figure 7). Students' efficiency framework achievement is based on behavioral product evaluation, the median score of the performance analysis, as well as the differences in political and ideological teaching statistics. The best performance for the remote supervision algorithms using optimization with DL techniques is shown in the results (refer to Table 3).

As we know, China's higher education gradually begins to have a complete system after the reform and opening up. However, the world has gradually entered the

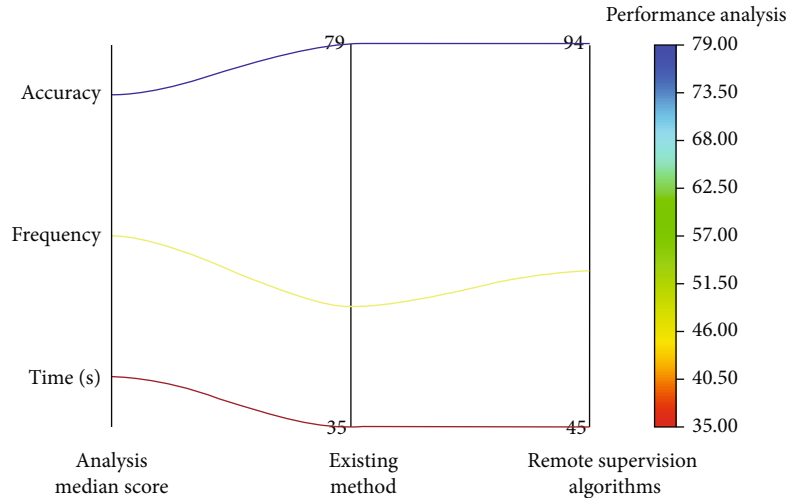


FIGURE 7: Performance evaluation differences in median scores as well as differences. Statistics on political and ideological teaching.

information age with the continuous popularization of Internet technology and computers worldwide. Besides, the industrial impact brought by the technological revolution will quickly spread to any country in the world after the development of economic globalization. More and more scholars begin to realize the importance of scientific as well as technological innovation. Besides, accelerating the process of modernization as well as promoting the construction of digitization and informatization has become the main guiding direction of all walks of life. The field of education also faces great challenges. The development of education will seriously affect a country's future as well as destiny. Nowadays, mobile learning has become the general trend of higher education teaching model reform. By considering this situation, the study has been conducted to evaluate the perception of students. This study suggested that teaching recognition is the significant aspect in learning ideological and political education via mobile learning.

5. Conclusion

Mobile learning is employed to optimize the ideological and political education which provides a new direction for the reform of higher education under the rapid development of the Internet. Mobile learning is based on mobile devices terminal, and new teaching methods are adopted to provide new learning conditions for college students. In this case, industrial communication device based on mobile learning towards ideological and political education is performed. The industrial communication device refers to the secured connection between the teacher and students. In order to secure the communication over the network, this study is conducted. The study implemented remote supervision algorithm for evaluating the perceptions of students towards mobile learning in the ideological and political education. The study results proved that the proposed model works well in securing the information through wireless sensor network.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The author declares that there are no conflicts of interest.

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