

## Retraction

# Retracted: Evaluation of “Online and Offline” Integrated Teaching Model of Ideological and Political Courses in Colleges and Universities in the Era of Artificial Intelligence

### Wireless Communications and Mobile Computing

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article’s content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

### References

- [1] L. Wang, “Evaluation of “Online and Offline” Integrated Teaching Model of Ideological and Political Courses in Colleges and Universities in the Era of Artificial Intelligence,” *Wireless Communications and Mobile Computing*, vol. 2022, Article ID 4750324, 10 pages, 2022.

## Research Article

# Evaluation of “Online and Offline” Integrated Teaching Model of Ideological and Political Courses in Colleges and Universities in the Era of Artificial Intelligence

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In recent years, the online mode of teaching and learning has been developing day by day. Educational organisations strive to achieve the goal of providing students with a good education. This curiosity resulted in the development of many tools and techniques. The teachers and students should also be trained to adapt to the new technology-based classes from the traditional model. In this research, an integrated model is designed to implement an artificial neural network (ANN) in the intelligent wireless neural network to provide timely delivery of the courses. The integrated model is the combined online and offline teaching and learning process framework. The system is trained with ANN to increase the teaching and learning performance, and the model is compared from various perspectives with existing models like *K*-means and hybrid *K*-means. The comparison is carried on for two student batches, and the results show that the proposed ANN model provides an accuracy of 96% and 98% for batch one and batch two of students, respectively.

## 1. Introduction

The instructional approaches utilised in conventional ideological and political teaching demonstrate that students are actively involved in their own education for Internship Placement Tracking (IPT). IPT is a data management system that matches agencies, field instructors, and students to internship opportunities. Students from traditional schools who are not pedagogical are required to take a public teaching course as part of their graduation requirements [1]. Taking this course has a significant impact on the establishment of teachers' perspectives and instructional objectives. According to the authors, video-on-demand technology can be used to teach ideology and politics in accordance with current pedagogy and educational standards. Despite this, each country is making significant progress on its own [2]. Neither the first nor the second lessons are used in support of the defence. Researchers in this company must have a combination of academic economics and cultural training, as well as components of contemporary culture, in order to

completely comprehend the current media milieu and its significant shifts. In spite of past generations' ideological and political education, according to the findings of the research, the existing structure of philosophical and policy resources continues to expand and evolve [3]. When it comes to research that is conducted behind closed doors, there is no shortage of terms to characterise what is being done there. In our fast-paced culture, it is not always possible to change this occurrence in order to meet the needs of the general population. In today's environment, kids must learn about ideology and politics in the classroom, as well as beyond the classroom. Affinity groups are the only environments in which growth and innovation can be fully appreciated. Students must be able to engage and learn in a variety of situations if they are to be successful in this environment [4]. First and foremost, it is likely that this method was used to track the expansion of technical education in the United States. The narration makes it apparent that the university's ambitions are lofty, but it also makes it plain that they are not without their risks. Academics are becoming

increasingly well-versed in the workings of government and social institutions [5]. When it comes to the laptop's long-term planning, it appears that both of these components are interconnected. It is important for researchers to include software knowledge networks as part of the college's economic and cultural change. Using this creative technique, a more creative approach to economic and cultural learning at major technical colleges is believed to be more effective [6]. The current method of instruction, on the other hand, does not imply that giving up something in exchange for something else is a waste of time. Their college educations are jeopardised, and their course work becomes more difficult because of this. All parties participating in the political and social education of higher education students should feel more at ease with the framework now in place [7]. Students at the world's most prestigious higher technical schools must have a thorough understanding of network issues as well as the advantages and disadvantages of a blended learning environment.

The integration of economic and cultural studies in higher education with contemporary culture is necessary to ensure that each element has greater distinctiveness and flexibility in light of the rapid changes that have occurred in the media environment [8]. According to the report, students' economic and cultural needs are not given the attention they deserve at the university level. Students in this region's educational system place a high importance on academic accomplishment, as seen by their excellent test scores [9]. It appeared at first as if the instructor was nothing more than a data-carrier, and this was the case. Because they are merely robots, they will only accept the truth as a source of authority. After establishing an ideological and political framework, participants will be able to articulate all three points of view [10]. According to the evidence, this digital resource appears to be underutilised in the classroom. To put it plainly, it is a terrible situation.

Whatever the underlying cause, we have no idea what we are dealing with at this point. The majority of technical specialists adhere to a common design philosophy when creating new products [11]. With the help of social science ideas, research participants might be disassociated from their sense of belonging. Students in the scientific sector will not benefit from programmes that place a strong emphasis on economic and cultural education [12]. By employing extremely sophisticated instructional approaches, educators do not appear to be dispersing electricity in political or ideological education. Graduates of international institutions are less likely to be challenged by educators with a long history of education and devotion to a specific institution [13]. In this approach, for example, the state's economic and cultural education is not taken into consideration. According to this policy [14], it has contributed to the deterioration of the institution in both its economic and cultural contexts. When it comes to reconciling philosophy, politics, and society, most institutions are not sure if they have made the right decision. Decisions are taken on an as-needed basis in compliance with the mandates of the federal education department. At this moment, it is unclear what their economic and cultural objectives are [15]. According to the

researchers, an ideology and political system to assist readers in developing their own worldview, principles, and way of life are being sought instead of a false economic and cultural society. According to a National Assembly recommendation issued in 2019, networks will be utilised in the majority of future learning environments [16]. The rapid emergence of technology in the field of education has had a significant impact. It is for a new economic and cultural philosophy course at the university level. A person's perspective, global perspective, universe vision, and collective output are all influenced by education more than any other single factor. Despite ongoing debate, the relationship between education and learning, as well as their more significant implications for thinking and economics, remains unresolved. Philosophy occupies a central position in the intellectual and pedagogical work of higher education. Educational institutions are more likely to welcome a network approach that has a combination of online and offline components [17]. Recent college graduates have been provided with a number of advantages by computers. The availability of network resources has aroused the interest of teenagers in pursuing a formal education. When it came to the network infrastructure, the participants encountered challenges and obstacles that were similar to those encountered by the organisers. Advancements in artificial intelligence (AI) have been made in recent years.

The researchers contend that all undergraduates do not possess the advanced thinking abilities that they claim. Truth and fiction will no longer be distinguished from one another in the face of any good or bad [18]. It is exceedingly improbable that the network's knowledge will be able to manage itself, no matter how long it has been accessible. Because the regions mentioned can have a negative impact on people's everyday lives, well-being, and school districts, people place a high value on infrastructure as a means of defending their neighbourhoods. Unless people closely track the network's members, it is impossible to change the physical and psychological characteristics of network members [19]. Due to the current data boom, young people who have not been exposed to complex civilizations face new obstacles in their economic and cultural education. If economic and cultural programmes are addressed first in technical universities, there is a significant impact on education [20]. Smart gadgets abound in our culture's intelligent surroundings. Users now have more alternatives for dealing with more complex intelligent features as a result of the introduction of intelligent components. An important problem in this research is the construction of an intelligent educational environment for the fundamental parts of ecology as well as the provision of individualised support for these aspects [21]. Because of a multitude of factors, it is extremely difficult to predict how well a team will function as a whole. More precise estimates could aid educators and learning professionals in developing learning interventions that will assist the team in achieving its objectives [22]. At this time, the author focused on developing ANN architecture for binary classification with two hidden layers for early prediction of software technology team performance, which seems to be primary goal. The use of a hybridised deep neural

network is recommended when attempting to predict student achievement in school [23]. Student performance may be tracked, forecasted, and measured with the help of neural networks. By taking the exam and using the corrective revision technique, students can keep their identity through literature. Research has shown an emergent design strategy for improved E-learning backdrops has been discovered [24].

It was discovered in this study that a deep learning-based integrated educational framework (DLIEF) based on random forest could be developed. Critical thinking and data visualisation have both played a role in the advancement of new information technology. Exhaustive evaluations are performed in order to determine the ideal time series, predict, and other outcomes. Because of crucial information, constraints, or enhanced infrastructure, machine learning can consistently extract relevant metadata collections from a variety of different sources [25]. Attend these forums to learn more about the educational ideals and beliefs held by your instructors and gain insight into their thinking. When used in conjunction with current pedagogy and the needs of contemporary ideological and political education, video-on-demand technology can be used to provide a platform for teacher education that is both innovative and relevant to students. The focus of this research is on instructional methodologies for ideological and political education, both online and offline [26]. The expansion of educational opportunities needs the development of a deep learning integrated framework. Computer science and technology developments are developing at an ever-increasing rate, according to university records. Making a distinction between those who are healthy and those who are not makes no sense any longer. Excellent evaluation findings have been seen as a result of excellent evaluation findings [27]. The study focused on evaluation of “online and offline” integrated teaching model of ideological and political courses in colleges and universities in the era of artificial intelligence.

*1.1. Motivation of the Study.* With the advancement of information technology, life has become more accessible in the digitized era. This development made educational departments worldwide undergo a massive revolution. The traditional classroom study is transformed into a modernized, digitized, and visually stunning classroom. With increased student and teacher interaction, this modernization has increased students’ learning capability. Most colleges and universities have improved their performance in preparing course materials, effective teaching, and independent learning among students in theoretical courses due to this online/offline integrated teaching and learning process. This study is concerned with teaching and understanding the theoretical subject known as “ideological and political education” in colleges and universities of higher education. An artificial neural network (ANN) with wireless communication network technology is proposed to analyse student performance online and offline while integrating teaching education. It is indicated that the suggested algorithm outperforms the ANN algorithm with wireless communication network technology.

## 2. Materials and Methods

In many workplaces, it can be seen that professionals are used to conducting group discussions and meetings in online mode. This online mode is suggested during pandemic circumstances. It is understood that people are creating workspaces of their own and have found a way to complete the work quickly by staying at home. Online technology has made it possible in this scenario with artificial intelligence (AI), an intelligent system that allocates assignments to a system or computer and returns the system to follow those procedures given by the user. The focus of this technology in this research is to make the children attentive while attending the class through mobile phones supported by an internet facility. In some cases, it is more difficult to notice that every fifty-to-sixty students has difficulty listening to their classes within the time constraints. Even to manage the children’s reactions during the classes, an application has to be utilised to monitor the listener’s facial expression and understand their emotions. During school and college days, students have the perfect opportunity to understand concepts and their applicable policies, so it might be an excellent option to introduce the concepts like in ideological and political courses. These courses would help the students get a more profound knowledge of AI concepts, which might be good at quality measurements.

During the placements, every interviewer expects the student to be compatible in both physical and mental capability. Internet facilities are available for less cost in the twenty-first century in the current scenario. But the real thing happening is that most university students used to access the internet facilities given by their college, but most of the other college students failed to utilise their availability. IPL can be considered one of the additional skills that every student should learn. First, there is a need for suitable communication facilities between the faculties and students. This facility might help them to update themselves with the current technology and availability. Students and teachers may face certain challenges in completing online or offline courses. In online learning, the challenges include network relay, autoupdating of the contents, and content delivery. Similarly, during the offline classes, the student and the teachers have to follow a traditional mode of teaching, which may reduce the student’s concentration day-by-day. An integrated online and offline teaching model is proposed in this research for handling ideological and political courses in colleges and universities. This process is depicted as a basic architecture in Figure 1. From this figure, it can be observed that wireless sensor networks work with artificial intelligence to teach ideology and political courses to make the student graduate the course. In this scenario, each teacher and the students are treated as nodes available in different locations, and they communicate among themselves through the interactive system with the support of an uninterrupted internet facility.

*2.1. Proposed Work.* The preceding algorithm describes the general steps involved in training and testing an image



Evaluation of “Online and Offline” integrated teaching model of ideological and political courses in colleges and Universities in the era of Artificial Intelligence

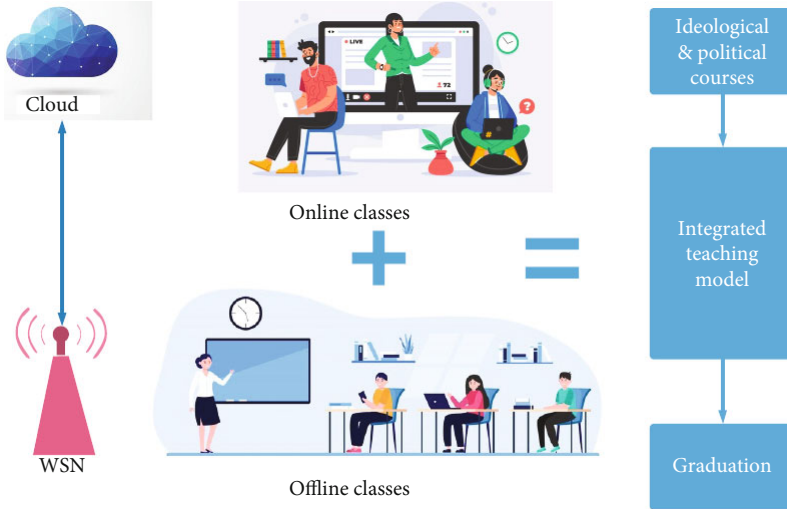


FIGURE 1: Proposed model.

classification dataset in ANN using wireless communication network technology.

ANN considers  $D_s$  to be a dataset with  $s$  objects  $\{n_1, n_2, \dots, n_{x1}\}n_i (1 \leq i \leq x)$ , and  $E(Q_j)$  of Equation (1) describes the attribute  $Q$  with the parameters  $D$  in the Frequency of  $Q_i, Q_j$  as in Equation (2).

$$E(Q_j) = - \sum_{P \in \text{object}(Q_j)} (Q_j = g) \sum_{j=1}^g D(Q_j = g), \quad (1)$$

$$S(Q_i; Q) = \sum_{i=1}^{j-1} E(Q_i) + E(Q_j) - E(Q_{ij}Q), \quad (2)$$

$$1 \leq i, j \leq x (i \neq j).$$

$x$  represents number of attributes along with  $n$  as objects of  $\{n_1, n_2, \dots, n_n\}$ , where  $n_i = \{n_{i1}, n_{i2} \dots, n_{in}\}$ , differential of  $n_0$ .

$$g(n_o) = \sum_{i=1}^j D_x(t_i) \left( \ln x - \frac{n}{m} \log m \right) - nD_n(t) + n \sum_{i=1}^j EQ(n_{pi}), \quad (3)$$

where

$$D(t_i) = 2 \left( 1 - \sum_{i=1}^n \frac{1}{1 + \text{Exp}(E_n(t_i))} \right), \quad (4)$$

$$D_n(t_i) = \sum_{i=1}^n D_n(t_i) E_a(t_i). \quad (5)$$

The most familiar loss ability deformation framework utilised today, ANN of the two-dimensional in academic qualifications online and offline integrating teaching pro-

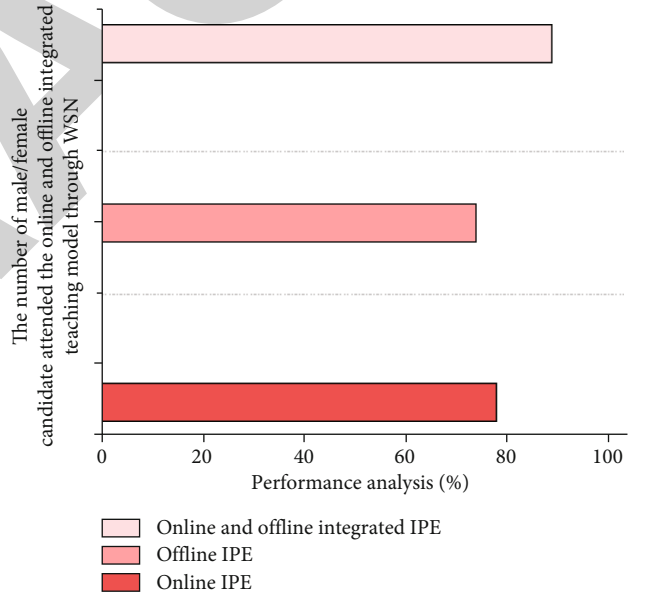


FIGURE 2: Performance analysis for “online and offline” integrated teaching model of ideological and political courses using ANN wireless communication technology.

cessing, is used in Equations (3) and (4). In Equation (5), the main benefit is utilising a data framework, presuming that performance measurement of ideological and political education (IPE) courses is carried.

$$E(n_{oi}) = \begin{cases} 1, & \text{if } x(n_{oi}) = 1, \\ \delta, & [x(n_{oi})], \text{ otherwise,} \end{cases} \quad (6)$$

$$\delta(n) = \sum_{i=1}^n (n-1) \log(n-1) - a \log(n), \quad (7)$$

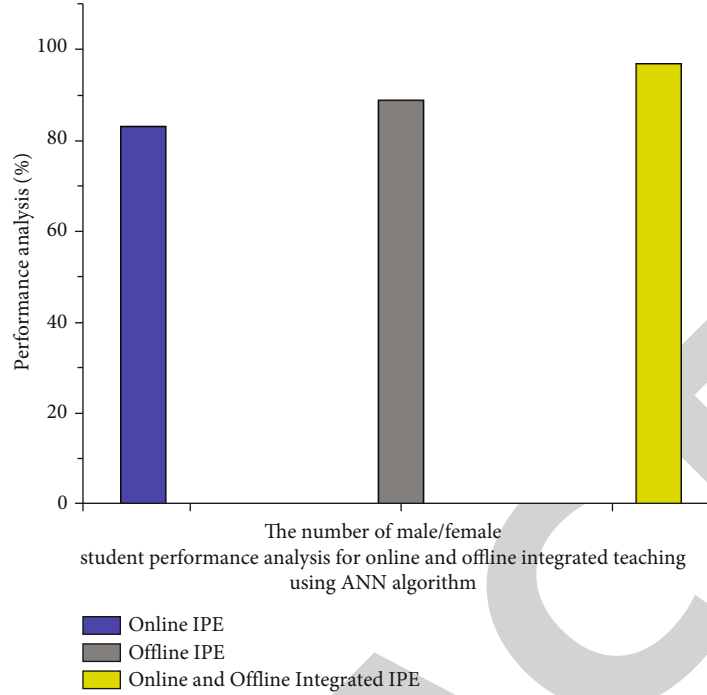


FIGURE 3: Performance analysis for “online and offline” integrated teaching model of ideological and political courses using ANN algorithm.

TABLE 1: Respondent classification using the ANN algorithm for male and female characteristics of the residential environment.

| Parameters                  | Classification                 | Online IPE (%) | Offline IPE (%) | Online and offline integrating (%) | Percentage (%) |
|-----------------------------|--------------------------------|----------------|-----------------|------------------------------------|----------------|
| Gender                      | Male                           | 82             | 87              | 90                                 | 91             |
|                             | Female                         | 89             | 90              | 91                                 | 94             |
| Residential IPE environment | Online                         | 72             | 82              | 81                                 | 87             |
|                             | Offline                        | 78             | 86              | 83                                 | 89             |
|                             | Online and offline integrating | 91             | 93              | 96                                 | 94             |
| Education IPE               | Courses                        | 84             | 78              | 80                                 | 82             |
|                             | College or university          | 86             | 80              | 83                                 | 86             |
| Activities IPE              | Extracurricular activities     | 89             | 91              | 94                                 | 93             |

$$g(n_o) = \sum_{i=1}^n \left( \ln n - \frac{n}{m} \log m \right) - nE_n(m) + n \sum_{i=1}^n E(n_{o_{ij}}). \quad (8)$$

Equations (7) and (8) are used to calculate an IPE feature that ensures by adding random qualities to the coefficients. Higher magnitude of education results in a more effective system. Implantation and extraction method is represented in Equation (9).

$$Es_n = \frac{\sum_{\min}^{\max} Es + Es_{\min}}{Es_{\max} + Es_{\min}} = \frac{Es - Es_{\text{mean}}}{\sigma_t}. \quad (9)$$

The methodology described in Equation (9) does not

truly ignore the  $Es_n$  audio/video, and the correlation coefficients cannot be applied to the requested link without causing harm to the information contained in the direct source.

$$t_{\min} = \int (D^x \cdot E + Q). \quad (10)$$

Essential research found that  $t_{\min}$  is the longer duration that is necessary to recognize different kinds of gadget and quick enough to completely load the contents with multiple small packs from  $t_{\min}$  is given in Equation (10). Nevertheless, if  $t_{\min}$  does not contain moderate data to transfer, then alternate packets have to be identified to fill  $t_{\min}$ , and safeguarding with 0 qualities is used to calculate the magnitude

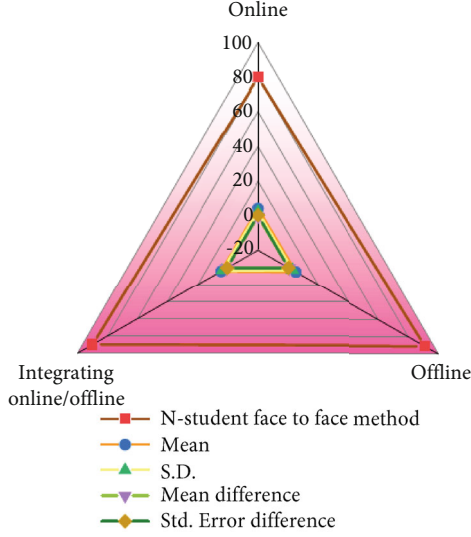


FIGURE 4: Impartial Measurement for integrated tests for IPE teaching Educational

of standouts is represented in Equation (10).

$$D_{\text{copy}} = D(t_{\min} = 1 | F) = \frac{\text{Exp}(D^x \cdot E + Q)}{1 + \text{Exp}(D^x \cdot E + Q)}. \quad (11)$$

In Equation (11), the system first trains an option to keep for each type of device. Each associated with various paired options indicates whether or not the input unique mark perception equates to the operating system platform with the variable  $D_{\text{copy}}$ . Researchers found that online and offline integration of teaching process is implemented to introduce a three  $D_{\text{class}}$  framework (online, offline, online/offline integrating) that is adaptable but also applicable to a huge population of device types is provided in Equation (12).

$$\ln(D_{\text{class}}) = \log\left(\frac{D_{\text{class}}}{1 - D_{\text{class}}}\right) = \sum D^x \cdot E + Q. \quad (12)$$

Some few classifiers are capable of recognizing an obscure unique finger impression perception and thus coordinating a few connected devices given in Equation (12). In such cases,  $\ln(D_{\text{class}})$  is being used to run for election between different classes using a change separation predicated metric. While transformation, separation method is used to identify different device types, and it takes more time than the sequential disconnection is represented in Equation (13).

$$t_{\min} = \begin{cases} 1, \ln(D_{\text{class}}) > 0.6, \\ 0, \ln(D_{\text{class}}) < 0.6. \end{cases} \quad (13)$$

Relatively small the difference, then more accurately the specialized information points of the dedicated learning competition  $\text{random}_j D_{ij}^n(E)$  the learner's communication is

signified. This signification is denoted in Equation (14).

$$E_i^n(t) = \sum_{j \in L} \text{random}_j D_{ij}^n(E). \quad (14)$$

$(v, D; Q, \emptyset)$  in Equation (15) denotes the spending optimized time with both teaching programs represents the total information shared through the educational methods.

$$(v, D; Q, \emptyset) = |t|^{-0.6} \int_{-\infty}^{+\infty} t(\tau) n(\tau - s) e^{-jn\tau} t\tau. \quad (15)$$

The principal function timeframe or schedule of education (music course learning)  $E_s(v)$  of Equation (16) provides the objectives to clarify the difference in time required to complete the learning process through teaching materials, and the learning latency is calculated by considering  $E_i Q_i(v) = D^Q Q(v)$ .

$$E_s(v) = \sum_{i=1}^n E_i Q_i(v) = \int D^Q Q(v). \quad (16)$$

The learner's total optimal control performance  $\emptyset_{s,n}$  in the learning path created by comment thread function through recalibrating coefficient values, as demonstrated by Equation (17). This equation is a functional illustrative example for the personalized learning navigation through optimization technique.

$$\emptyset_{s,n} = \frac{\|Q_{s,n}\|^2}{\delta^2} \text{Exps}\left(\frac{(Q_{s,n} * E)}{2\delta^2}\right) * \sum \left[ e^{i(Q_{s,n} * D)} - e^{-\frac{\delta^2}{2}} \right]. \quad (17)$$

Each dataset contains numerous data under data quantity that specifies the limit of higher learning measurement and decision-making distribution. When  $D$  is 1.7–1.9, the evaluation and decision-making prediction error variance is minimized. If the variance value is zero, the entire dataset will be considered an error set. The specified level of evaluation and decision-making diffusion can consistently keep the evaluation and decision-making prediction error below 8%.

$$\begin{aligned} \sin(\theta) &= \sin(\beta - \alpha) = \sin \beta \cos \alpha + \cos \beta \sin \alpha \\ &= \frac{E_1 D_1}{\|E\| \|D\|} + \frac{E_2 D_2}{\|E\| \|D\|} = \frac{E_1 D_1 + E_2 D_2}{\|E\| \|D\|}. \end{aligned} \quad (18)$$

The ideological and political learning centralized repository of structure is an essential qualification that identifies the unrealistic evolution of a knowledge-based economy that has destroyed its important position in life learning, as demonstrated in Equation (18).

$$E.D = \|E\| \|D\| \frac{E_1 D_1 + E_2 D_2}{\|E\| \|D\|} = \sum E_1 D_1 + E_2 D_2. \quad (19)$$

A teaching model is designed using the convolutional method and is represented in Equation (19) to teach the

TABLE 2: Impartial measurement test of school education.

| Parameters                         | Online/offline                 | Online and offline integrating teaching education for IPE |      |       |                 |                       |
|------------------------------------|--------------------------------|---|------|-------|-----------------|-----------------------|
|                                    |                                | N   | Mean | S. D. | Mean difference | Std. error difference |
| The internet environment           | Online                         | 80  | 4.14 | 2.27  | -0.55           | 0.26                  |
|                                    | Offline                        | 91  | 5.29 | 3.01  | 0.89            | 0.37                  |
|                                    | Integrating online and offline | 90  | 4.56 | 3.89  | 0.93            | 0.54                  |
| Learning/teaching via the internet | Online                         | 75  | 3.16 | 2.48  | -0.89           | 0.26                  |
|                                    | Offline                        | 82  | 3.89 | 2.74  | 0.91            | 0.67                  |
|                                    | Integrating online and offline | 89  | 4.48 | 3.12  | 0.94            | 0.73                  |
| Platform utilise                   | Online                         | 72  | 3.62 | 3.73  | 0.65            | 0.45                  |
|                                    | Offline                        | 79  | 2.65 | 3.12  | 0.43            | 0.39                  |
|                                    | Integrating online and offline | 82  | 3.12 | 2.96  | 0.54            | 0.32                  |
| Platform effectiveness             | Online                         | 69  | 3.95 | 3.15  | -0.53           | 0.45                  |
|                                    | Offline                        | 65  | 3.91 | 3.23  | -0.32           | 0.56                  |
|                                    | Integrating online and offline | 71  | 2.97 | 2.99  | 0.65            | 0.45                  |

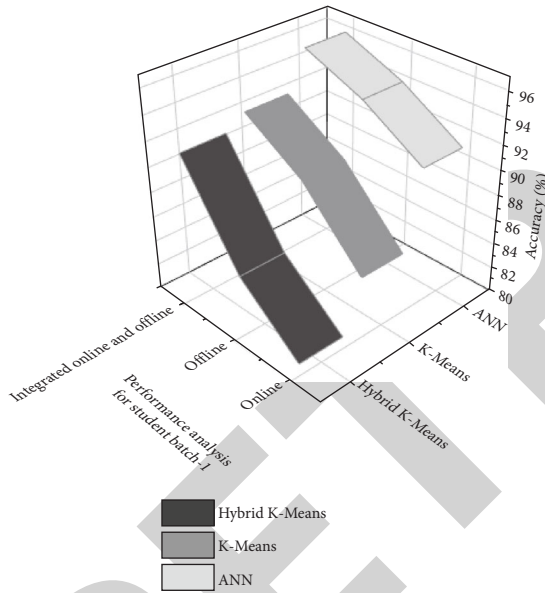


FIGURE 5: Performance analysis for student batch-1.

music course through online and offline mode. The purpose of this design is to train the persons systematically and in a simple manner to integrate predetermined behavior and beliefs that seem reasonable for specialized patterns of thinking.

$$E.D = \sum_{i=1}^n E_i D_i = \sum E_1 D_1 + E_2 D_2. \quad (20)$$

Students think that education seems to be the goal, and that education involves development, gratitude, recognition, and service and allows students to improve their skills as in Equation (20).

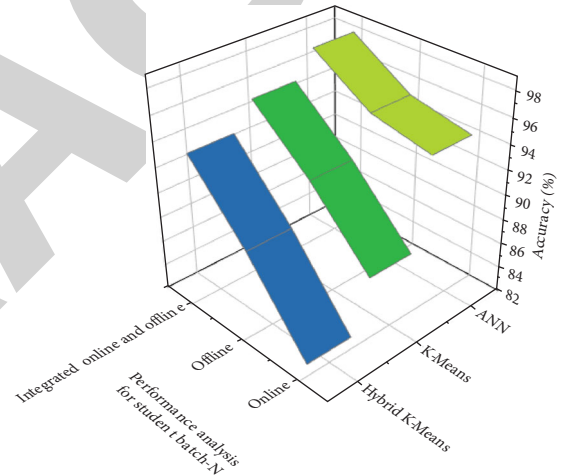


FIGURE 6: Performance analysis for student batch-N.

### 3. Results and Discussion

In this research, the students are considered to attend the online and offline integrated teaching model through intelligent wireless networking model.

The ANN algorithm, combined with wireless communication technology, is being used to categorise the dataset as male or female, predicated on the residential environment as online or offline. The number of male and female students who attended the online IPE classes is classified with an accuracy of 87%. The students who participated in the courses offline are classified with an accuracy of 91%. The students' integrated model of attending the course is classified with a performance accuracy of 96%. The investigation into ideological and political education seeks to determine how academic institutions manage to provide courses in an understandable manner (see Figure 2).

The ANN algorithm is implemented to train students of both genders for "online and offline" integrated learning of ideological and political courses through continuous



TABLE 3: Performance analysis for student batch-1 and student batch-N.

| IPE performance analysis student batch-1 |                 |          |     | IPE performance analysis head student batch-N |                 |          |     |
|--|-----------------|----------|-----|---|-----------------|----------|-----|
| Algorithm comparison result analysis     | Hybrid K -means | K -means | ANN | Algorithm comparison result analysis          | Hybrid K -means | K -means | ANN |
| Online                                   | 81              | 85       | 91  | Online  | 83              | 87       | 94  |
| Offline                                  | 85              | 90       | 94  | Offline                                       | 89              | 92       | 95  |
| Online and offline integrating           | 92              | 93       | 96  | Online and offline integrating                | 94              | 96       | 98  |

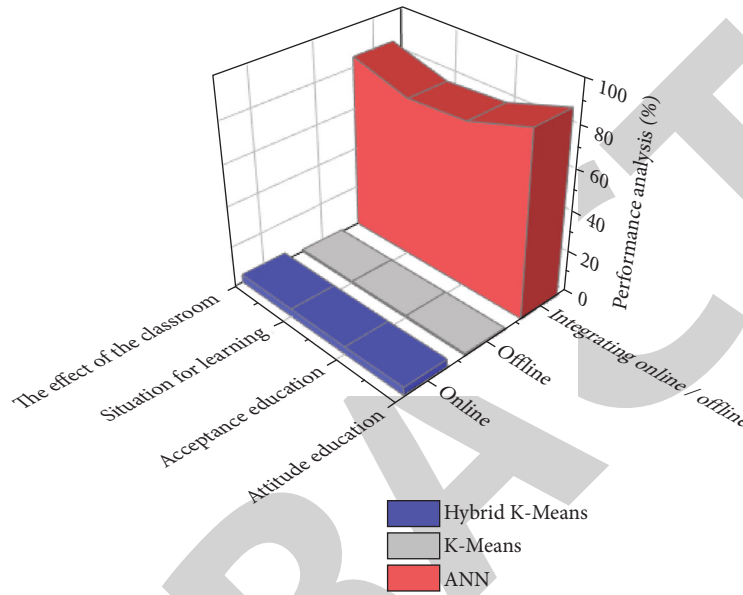


FIGURE 7: Performance analysis median scores as well as differences in political and ideological teaching statistics.

TABLE 4: Result analysis median scores and differences in political and ideological teaching statistics.

| Student                     | ANN algorithm                                   |          |                        |
|-----------------------------|---|----------|------------------------|
|                             | Performance analysis for online and offline (%) | Time (s) | Frequency Accuracy (%) |
| Attitude education          | 4   | 0.864    | 89                     |
| Acceptance education        | 3.6   | 0.957    | 79                     |
| Situation for learning      | 3.8   | 0.896    | 77                     |
| The effect of the classroom | 4   | 0.988    | 85                     |

teaching, learning, and evaluation processes. This ANN algorithm is implemented to train students online or offline in an integrated mode of teaching and learning processes. Figure 3 shows that the performance of the teaching and learning process has increased with the support of ANN in integrated mode and achieved an accuracy of 96%, which is higher when compared to the individual modes.

The respondents of the study were selected in a non-probabilistic manner, with students from two of the largest high schools and colleges participating. The study respondents were selected in a nonprobabilistic manner, with students from two of the largest high schools and colleges participating. Table 1 represents the performance analysis

of the teaching and learning process from different perspectives for the selected number of students. The parameters considered for evaluation are gender, students' residential location, and teaching and learning with and without activities.

Figure 4 represents the 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. Students from academic institutions provided the data. In the performance analysis for the impartial measurement test of a school, the mean, standard deviation, and difference between mean and standard deviation are specified. The analysis for that performance is based on error difference values being considered. The investigation's ideological and political education focuses on identifying the appropriate one to represent the ANN algorithm.

Despite the challenges (Table 2) encountered by the teachers and the students,  $N$  students believe that integrating the traditional offline (face-to-face) with the trending online mode of IPE learning is the best way to carry out the teaching and learning process with an accuracy of 90%. The digital platform should be used as a supplementary device to facilitate the educational process. Also, it can be observed from Table 2 that for certain teaching methodologies, the

TABLE 5: Comparison result analysis for the existing methods.

| Algorithms                      | Frequency | Time (s) | Training and testing (%) | Accuracy (%) |
|---------------------------------|-----------|----------|--------------------------|--------------|
| Artificial neural network (ANN) | 0.988     | 4        | 93.56                    | 98.97        |
| Existing method                 | 0.853     | 3        | 89.41                    | 96.45        |

mean difference has resulted in negative values. Most of the negative values are found in the online teaching mode, and hence, it can be said that due to some disturbances or network delays, the students were unable to gain full knowledge of the course. This challenge has resulted in a reduced learning performance and hence the negative ranking. Positive values are an indication of improved performance of learning methodology.

For the comparative analysis of the proposed model with the existing system, the total number of students is grouped into batches. The grouping is made up of a random selection of one hundred students per batch, and each batch is numbered from one to  $N$ . The performance analysis of the teaching and learning process is used, with the E-learning framework being used as a supplementary model to enable the educational process (refer Figure 5). Thus, the overall performance analysis of 95% of students would recommend student batch-1 using artificial neural networks. However, certain students recommend the implementation of the  $K$ -means algorithm and others for hybrid  $K$ -means that result in 85% and 82% of accuracy, respectively.

In the performance evaluation of Figure 6, the teaching-learning process is used, with the E-learning framework serving as a complement to the educational process being tested for another set of students from student batch- $N$ . Thus, based on the overall performance of 97% of students, this suggests the utilisation of ANN-based intelligent networking for the learning processes.

The comparison analysis for the existing method is calculated. The overall performance analysis for integrated online and offline IPE teaching education is calculated. From Table 3, it can be seen that 92% of students are for hybrid  $K$ -means, 93% for the  $K$ -means method, and ANN results in 96% in IPE performance analysis for one group of students. Similarly, the second batch of students resulted in 94% of students for hybrid  $K$ -means, 96% for the  $K$ -means method, and ANN results in 98% in IPE performance analysis for the learning through combined mode.

The ANN algorithm performs machine learning data analysis in conjunction with wireless communication technology and a classification method (Figure 7). It extracts its most significant meaning from relevant data by analysing and modifying essential information. Although data processing is normally more advanced and the available data is rather large, machine learning models struggle to define patterns from data. Students believe that education is the primary goal, and that education also includes guidance, evolution, recognition, knowledge, delivery, and teamwork, all of which help students succeed. Students' performance framework achievement is based on behavioral quality evaluations.

The median score and the differences in political and ideological teaching statistics are considered for performance analysis. It is the best performance for the Artificial Neural Network algorithm classification with AI techniques using wireless communication technology (refer to Table 4).

Most higher education institutions have improved its performance with in preparation of teaching materials, teacher effectiveness, and independent learning between students in theoretical classrooms as a result of the development for online/offline combined teaching and learning processes. Ideological and political education (IPE) is a conceptual subject that is studied and comprehended in higher education institutes and universities. An artificial neural network (ANN) using wireless communication network technology is used to evaluate student performance within offline and online integrating instructional education. There is evidence that the suggested approach outperforms the ANN algorithm when implemented using wireless communication network technology. This proposed model is compared to the existing method as it provides an analysis for the frequency (0.853) and time (3 s) and training with testing (89.41%) and overall accuracy (96.45%). The proposed method has frequency (0.988) with time (4s) with training and testing (93.56%) and overall accuracy of 98.97%. The results revealed that the proposed model has provided online and offline integrated teaching model of ideological and political courses (refer to Table 5).

#### 4. Conclusions

Due to the development of an online/offline integrated teaching and learning process, most colleges and universities have improved their performance in the preparation of course materials, effective teaching, and independent learning among students in theoretical classes. Ideological and political education (IPE) is a theoretical subject that is taught and understood at colleges and universities of higher education. Student performance in online and offline integrated teaching education is analysed using an artificial neural network (ANN) with wireless communication network technology. There is evidence to suggest that the proposed algorithm outperforms the ANN algorithm using wireless communication network technology.

#### 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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