Library Progress International *Print version ISSN 0970 1052*
Vol.44 No. 3, Jul-Dec 2024: P. 15883-15897 *Online version ISSN 2320 317X*

Original Article *Available online at www.bpasjournals.com*

Exploring The Innovative Path Of Labour Education In Universities In The New Era From The Perspective Of "Labour Concept": Data-Driven Research

Hong Xiang [1] *, Wenxi Tan[2] , Tingting Long[1], Li Wang[1], Le Zhang[1], Anrong Wang[3]

[1].College of Fine Arts ,Chongqing Three Gorges University, Chongqing Wanzhou 404020, China
[2].Teacher School of Education ,Chongqing Three Gorges University, Chongqing Wanzhou 404020, China
[3].School of Electronic information Engineering,Chongqing Three Gorges University, Chongqing Wanzhou 404020, China
Email
xxxianghong@126.com(CA)
twx666333@163.com
15215148864@163.com
15934110224@163.com
15237872025@163.com
wang_an_rong@163.com

How to cite this article: Hong Xiang, Wenxi Tan, Tingting Long, Li Wang, Le Zhang, Anrong Wang (2024) Exploring The Innovative Path Of Labour Education In Universities In The New Era From The Perspective Of "Labour Concept": Data-Driven Research. *Library Progress International,* 44(3), 15883-15897

Abstract –

Building and developing colleges and universities is an intrinsic requirement for labour education, and supporting their building is important now. College students' work ethic influences their development into the modern man, advancing the fundamental mission of technologically advanced educational institutions and satisfying the building demands of a modern educational superpower. This work mixes big data technology with a viewpoint on labour ideas to enhance the research impact of investigating the creative route of labour education in colleges and universities. This paper details a data-driven strategy for analyzing job postings to determine the necessary skills for a specific position using text-mining algorithms. The data-driven strategy allowed us to glean the required soft and hard abilities from job descriptions. The new methods may aid in the paradigm change toward sustainable development and provide decision-makers and curriculum designers with the tools to gauge the need for sustainability-related skills in the workforce. To create instructional materials based on learning objectives, the provided result may be used as input in outcome-based training creation. College labour education has some economic value, and the research demonstrates that the model for studying this value suggested in this article—which is based on big data analysis—can significantly contribute to studying this value in higher education.

Keywords – Labour Education, big data, data-driven, labour concept, text-mining algorithms.

1. Introduction:

The labour education curriculum ought to be comprehensively bettering students' labour concepts, labour consciousness, labour spirit, and professional labour education; rather than being superficial, fragmented, or practical, it ought to integrate labour education into the whole process of talent cultivation, build an effective and scientific education system, and organically integrate it with subject and professional education [1]. It is only fair that labour education be a primary focus of instruction at higher education institutions, such as colleges and universities, which play a significant role in systematic education. Nevertheless, labour education at some colleges and universities is not producing the desired results [2]. As a result, many college graduates lack a scientific understanding of labour and good work habits when they enter the workforce, which can impact their job security. With the new era quickly approaching, colleges and universities must adapt to the characteristics of the scientific and technological revolution. They must also examine labour education's significance and practical applications in this new era [3-4].

Higher education institutions should aim to produce socialist modernization builders capable of meeting the challenges of contemporary economic development via the development of practical skills and abilities [5]. Colleges and universities emphasize practical training and labour education for their students and particular education and teaching practices. On the other hand, many pupils don't understand what labour is, have poor ideas about it, and have terrible attitudes towards work. Meanwhile, college and university labour education has been progressively ignored [6]. Occasionally, news has broken

about college students' lack of freedom regarding their work and vision. These occurrences highlight difficulties that need serious thought. It is impossible to ignore the problems caused by college students' lack of competence in labour operations and their hazy understanding of labour education [7].

Massive quantities of data are generated and collected from various sources in higher education. The various forms of educational data include information about students' experiences with learning management systems (LMSs) and platforms, as well as data about administrative, instructional, and quality improvement procedures; instructional objectives; curriculum; instructional resources; assessment results; and education operations and lessons [8-9]. Due to its size, kind, and limited use, educational institutions' massive data sets need specialized approaches to uncover fresh, actionable insights. It is possible to modify large amounts of student data using big data strategies from other sectors [10-11].

Consequently, labour education data is intended to be classified by big data analysis. Secondly, designing a robust mechanism for learning labour education and upgrading the evaluation system of labour education in colleges and universities are the paths that labour education takes in the new age [12-13]. The evaluation system for labour education at colleges and universities is finally set up, and the impact of labour education in this new era is examined. According to researchers, big data analysis can help restore social function by increasing positive emotions, social support, and verbal and emotional communication skills and decreasing emotional indifference in students [14]. Professional labour education may boost students' initiative, creativity, feeling of social responsibility, inventiveness, and practical abilities, and they can experience the joy and satisfaction of meaningful work. There is a common belief that students would benefit from labour education programmes in higher education if they were to develop a positive labour awareness and specific labour skills [15]. Another important quality for college students is the ability to work, which should be a part of the talent development objective system. College students may benefit from professional labour education in many ways, including increased initiative and creativity, a stronger feeling of social responsibility, a more imaginative spirit, and better practical abilities. They can also experience the joy and satisfaction of doing meaningful work [16-17].

The main objectives are:

- ✓ This article introduces the specific architecture of the university-based labour education platform that combines big data technology with a data-driven decision-making strategy.
- ✓ This article aims to investigate the real-world trajectory of labour education by studying how informatization innovation practices on the teaching data of labour education courses in higher education institutions by text mining algorithms.
- ✓ The data analysis is concluded with the proposal of specific ways to improve instruction to enhance student's overall quality of education and facilitate the successful implementation of the labour education curriculum.

The following areas are critical to achieving the stated goals and constitute a major part of this effort. The following sections outline the components and methodology used to conduct the research: (2) previous literature, (3) proposed theory, (4) Analytical Findings, and (5) Conclusions.

2. Related previous survey:

According to the authors of [18], digitalization is a major factor in the increasing mechanization and decentralization of labour, reinforcing entrenched gendered divisions of labour and further blurring the lines between work and personal life for those in insecure employment. The commercialization of research has led to a formal subsumption of knowledge creation. Still, there is a genuine subsumption of teaching in today's more marketized higher education sector, which is experiencing a qualitative transition. Workers and their collective groups in higher education face new issues brought about by these new features of modern subsumption.

Using the Total Quality Management (TQM) framework, the writers of [19] looked into the most important aspects of improving the university's quality management system to make its human resources more competitive. The approach relies on scenario analysis (the Case method) informed by the strategies and reports of universities' dominant competitors in learning services, as well as contrast analysis and a combination of objectives for the growth of universities. In consideration of the needs of everyone involved, it is important to guarantee that graduates will be competitive in employment and their distinct academic endeavours.

The revised "Opinions" content guidelines need this article to analyze secondary, primary, and university labour education integration. Researchers of [20] have successfully integrated labour education into secondary, elementary, and university

curricula. However, consistency across curricular stages, institutional support, and understanding of this integration's implications remain challenging. We propose realistic and practicable goals, curriculum, and teacher development methods for China's primary, secondary, and postgraduate universities' combined labour education system. This helps new-era labour education integration.

In [21], College and university labour education in the modern era should aim to resolve the conflict between "change" and "no change" by developing a new model of labour education based on the "three-whole-education" educational principle. Significant changes have occurred in the focus, substance, and delivery of college-level occupational training since the turn of the last century. This will ensure that colleges and universities can fulfil their mission of educating the public and cultivating moral character.
Using the two-way street between AI and labour education as a theoretical framework, the study [22] identifies three big issues with labour education today:(1) the management of education at the K-12 and university levels;(2) the division of techniques and ethics; and(3) the inherent dichotomy between mental and physical labour. Here, vocational education in K-12 and higher education should follow the right value orientation of vocational education, encourage the integration of vocational values and skills, and work towards a system that integrates the five dimensions of education: ethics, intellect, body image, aesthetics, and labour.

University labour is crucial because it generates reliable communist leaders and skillful builders, as presented in [23]. Chinese university career guidance is bad. Numerous schools rate talent identification and training, using a high and undergraduate misunderstanding of vocational education basics. To correct the misconception about labour education in China's higher education, research suggests focusing on three aspects of college students' labour training: social practice labour, the work-study programme, and public welfare labour.

College students nowadays get a personally significant and morally rich labour education, physically demanding and emotionally enriching [24]. To achieve solid results in colleges and universities, labour education programmes in the modern era can actively seek new paths in organizational leadership, curriculum optimization, team building, practical activities, publicity, guidance, and promotion of labour education.

Teachers must spend enough time designing and conducting labour education activities. College and university party committees should boost students' political standing and provide labour education. Colleges and universities should coordinate to prioritize technical education in the classroom during planning and design. Developing a long-term labour education system, assigning duties to university departments, and establishing systems to ensure party committee leadership, scientific application, teacher and student involvement, and system reliability.

3. Methodology:

Universities' approaches to labour education have evolved throughout the modern era. The primary means of acquiring knowledge in labour education is work, which may be categorized into physical and mental labour. Working physically may help individuals stay healthy, become better workers overall, appreciate the rewards of their labour, and learn to appreciate their challenges; working mentally can activate cognitive and non-cognitive abilities, allowing for more active participation. Research conducted in China has shown that the development of cognitive and non-cognitive abilities in college students significantly affects the monthly salary of entry-level employees. On the other hand, studies conducted abroad have shown that cognitive ability weakly correlates with labour market performance, while non-cognitive abilities can yield an 80% return in the job market. Improving non-cognitive ability is a clear goal of hands-on and brain-up vocational education. Young college students may benefit from learning physical labour in the new era of university labour education. In the context of this article, "labour education" means providing young college students with opportunities to hone their cognitive and non-cognitive skills in a hands-on setting. There is no substitute for the unique and crucial function that labour education plays in enhancing the quality of individuals; this kind of education is characterized by its various facets, including the cultivation of people's labour concept, labour dynamics, labour skills, and labour emotions. As the driving force behind a country's future growth, college students are crucial in building a socialist society. College students' vocational awareness and professionalism can be bolstered through labour education, which also helps students develop the ideological quality of "five identities" and helps them form a proper worldview, perspective on life, and set of values. It will set them up for success for the rest of their lives.

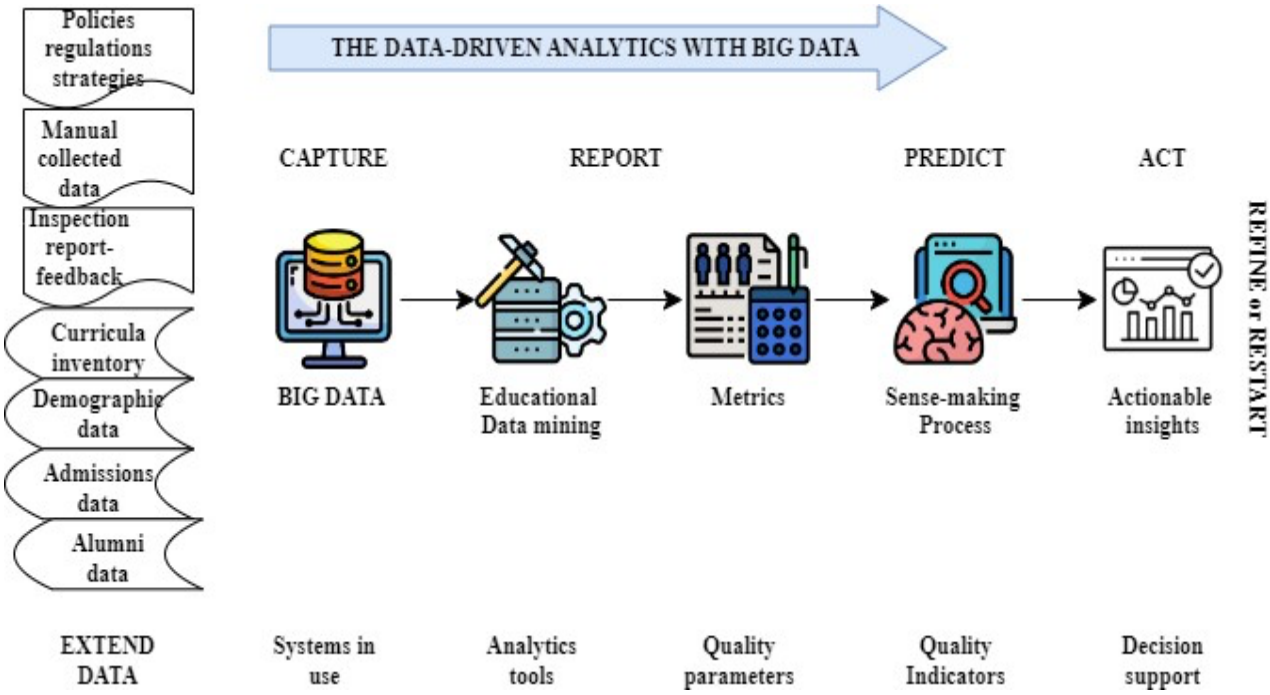

Figure 1: Big data-based data-driven decision support system

Figure 1 depicts the conventional data-driven analytics method, which is very relevant to data analysis specialists, as one reads from left to right. The process begins with the data and concludes with the decision. The primary points of interest are the data and the methods needed to acquire, store, cleanse, protect, transmit, and process them. This method states that gathering maximum data is the first stage in the loop, and subsequent phases involve pushing the collected data through various processes. When it comes time for reporting, the abundance of data is a boon. The findings can be improved by adding additional data.

Nevertheless, there are obstacles to processing large data volumes, such as the need for advanced mining algorithms and stronger hardware, software, and human expertise. It is daunting to interpret all this data, predict the trends, and investigate potential links. This step's data processing requires data analysis methods, which are often the domain of data analysts and, more specifically, educational data miners. The algorithm constructs trend predictions and action suggestions based on data collected in earlier stages; these recommendations may or may not be correct. For reasons best known to themselves, decision-makers often fail to grasp the significance of suggestions fully and instead choose other courses of action. The loop's final step is to terminate the loop or run the engine again with additional data from step 1.

"Learning analytics" governs all included processes when decision-making on the accomplishment of specified learning objectives is the emphasis. This includes operations at the micro and nano levels. Decisions at the operational, managerial, and procedural levels are regulated by "academic analytics", which also governs the meso and macro levels. Figure 2 shows the interplay and mutual support between the several tiers of analytics in the classroom. For example, the micro, meso, and macro levels may govern and monitor the nano level while receiving input from it. Individuals in this category, including students, instructors, school officials, and academic institutions, might be the target of analytics applications. Their goals may vary, including providing guidance, keeping tabs, making predictions, evaluating, providing comments, tailoring, suggesting, or assisting with decisions.

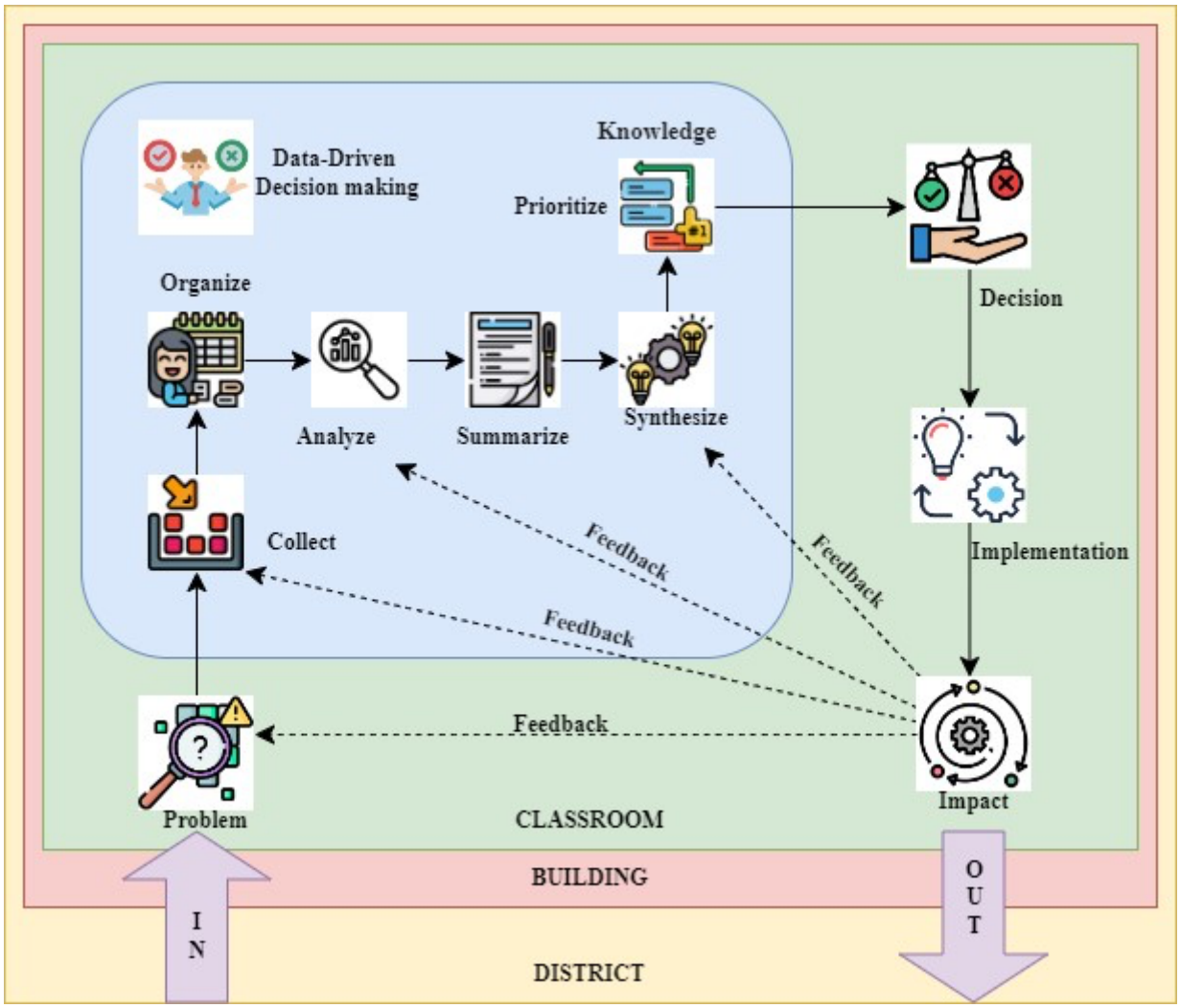

Figure 2: Data-driven decision making

The conceptual framework served as both a guide and a reminder of the significance of data-driven decision-making. This model takes a step-by-step approach to data-driven decision-making, visualizing a progression from raw data to information to knowledge. It considers the cognitive complexity of data and how it changes throughout the decision-making process. For the system to carry out some intricate computational operations before producing the optimal instructional choice, the procedure suggests that it must transform into a tool for the minds of administrators and teachers. First, the ability to gather and organize data (Data Level); second, the ability to analyze and summarise data (Information Level); and third, the ability to synthesize and prioritize data (Knowledge Level). Both the data utilized and the skills required might change depending on the responsibilities of decision-makers and the scopes of school organization, such as classroom, building, or district level.

On top of that, decision-makers aren't always going to use these abilities consecutively. Rather, the choice, the environment, the consequences, and the interpretations of the outcomes will determine the number of repetitions through the processes. This data-driven decision-making process is shown in Figure 2, along with the methods and data kinds. Decisions about education were formerly based on managers' prior experience before the advent of big data. Also, management sometimes bases their judgements on static and local data, leading to repercussions that weren't immediately apparent. For instance, in the past, there was a lack of comprehensive data that could be directly used to inform methods for optimizing students' time management. This data is confined to students' class attendance, food consumption, resting habits, and book borrowing. Students' inability to grasp entertainment, social situations, and other information might impact their ability to make informed decisions. In this era of big data, however, not only can educational data be collected, mined, and visualized; it can also be tracked, monitored, and predicted, and visualization technology can aid in discovering the inherent laws implied in the data, which in turn helps the high school administration make scientific decisions and sidesteps the issue of extensive educational decision-making. Educational strategies at all levels should benefit from big data's enhanced quality. From a microscopic perspective, educational data mining and analysis tools might help instructors understand each

student's learning requirements, traits, and impact on the class. This data could then be used to enhance personalized teaching. In the longer term, university administrations might use big data to enhance the management of teaching and research, people, enrollment, employment, and other decision-making processes. For example, the university has embraced big data to mine and analyze departmental data, allowing for global and local strategic planning and decision-making. Governments and regions should use big data technology to keep tabs on the state of higher education on a national and regional scale, provide warnings, and make predictions about size, structural adjustment, and funding distribution.

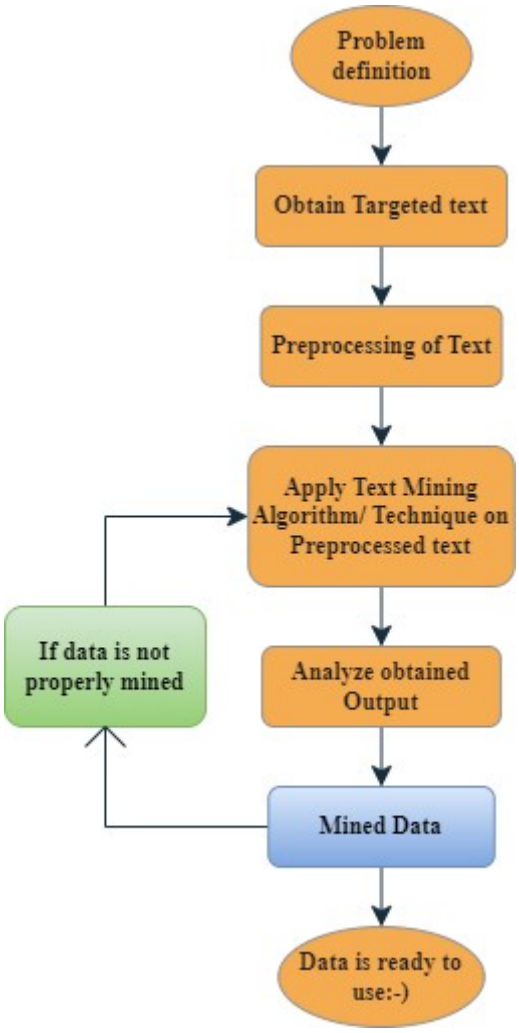

Figure 3: Process of Text mining algorithm

Figure 3 shows that the data is stored digitally by almost every sort of institution, organization, and commercial industry. Digital libraries, repositories, and other textual material like blogs, social networks, and e-mails contribute to the typical quantity of text that travels on the Internet. Discovering useful patterns and trends in such a massive dataset is no easy feat. Text data is too difficult and time-consuming for traditional data mining methods. Text mining refers to the technique of discovering valuable insights inside textual data sources via the extraction of relevant and engaging models. Text mining is an interdisciplinary area that draws on Data Mining, Computational Linguistics, Statistics, and Information Retrieval. Summarization, classification, clustering, and other text-mining methods may be used to extract knowledge.

Text extraction is the way to go regarding semi-structured and unstructured text storage. Numerous domains, including business, academia, online apps, and the internet, constantly use text exploration tools. Text mining is utilized in many application areas, including search engines, CRMs, filter emails, product suggestion analysis, fraud detection, social media analysis, opinion and characteristic extraction, sentiment analysis, trend analysis, and predictive modelling.

Information retrieval, information extraction, text categorization, and other transdisciplinary approaches are all part of text mining. Many text mining approaches are used to examine text patterns and the process of extracting them. Extracting Valuable Data from Semi-Organized and Unstructured Text Documents (PDFs, web pages, text files, etc.) Automatically is the goal of information extraction. Entities, their qualities, and their relationships are the building blocks of an IE system. Entities include things like names, locations, and businesses. The procedure involves looking for preset textual documents in a better-organized database. Once the database is built by an IE module, it may be passed on to a KDD module for further knowledge mining. Experts in the field define the domain-specific properties and relationships. This procedure retrieves the data pertinent to a certain inquiry or area of study. Please be aware that these details could also be found in more generic papers. Information retrieval for textual data and text mining are closely related fields.

Document clustering is a method for grouping text documents for classification using various clustering algorithms; it is an unsupervised process. As a mining tool, text summarization allows one to determine whether a document is useful for gathering additional relevant information and if it satisfies the user's needs. Text summarising software takes in texts, examines them, and then generates a concise summary by cutting out unnecessary words while keeping the important ideas and meaning intact. To create a good summary, one must read and fully comprehend the material before focusing on the most important aspects. Sentence extraction is a text summarising tool's go-to method for identifying the article's most crucial sentences using statistical weighting. Summarization also makes use of other heuristics, such as location data. If a text uses the term "in conclusion" to summarise its important points, for instance, summarising tools may only include the sentences that follow this word. In addition to looking for headings and other markers of subtopics, summarization systems may also search for these elements to find the document's important points. Web pages, books, media articles, galleries, and other text-based materials may be used for various purposes, including spam screening, email routing, word meaning disambiguation, sentiment analysis, and more. It sorts documents into categories based on the information they contain. A hierarchical structure of classes is used for class selection. Text extraction, tokenization, stop word removal, and lemmatization are the main text classification procedures for automated classification.

Nevertheless, when a strategy has been implemented, and the learning intelligence has impacted the environment, the strategy's performance is assessed based on the cumulative rewards feedback. For text mining algorithms, the holy grail determines the optimal course of action that maximizes cumulative rewards, given environmental input. In real-world application models, the cumulative reward of environmental feedback is sometimes replaced by the discounted future cumulative reward. In cases where the discounted total benefit of environmental feedback over time is calculated in Equation (1):

$$W_q = \sum_{x=1}^{Q} \gamma^{x-q}(R_x, e_x) \quad (1)$$

Q is the total number of time steps, and the discount factor γ is an integer between 0 and 1.

One may think of the state value function as a forecast of the future reward achieved by doing action in the current state. After that, Equation (2) shows:

$$C^{\pi}(R_q, e_q) = F_{R_{x>q}\sim F, e_{x\geq q}\sim\pi}[W_q|(R_q)] \quad (2)$$

In contrast to the state value function, the action value function more heavily considers the reporting of not acting at the present moment e and shows how good or terrible it is to act e in the current state. After that, Equation (3) shows:

$$G^{\pi}(R_q, e_q) = F_{R_{x>q}\sim F, e_{x\geq q}\sim\pi}[W_q|R_q, e_q] \quad (3)$$

Consequently, the action-valued function's Bellman equation is shown in Equation (4):

$$G^{*}(R_q, e_q) = F_{R_{q+1}\sim F}\left[s(R_q, e_q) + \gamma \max_{e_{q+1}} G^{*}(R_{q+1}, e_{q+1})\right] \quad (4)$$

At each time step q, the action-value function is revised based on the intelligent's experience tuple (R_q, e_q, s_1, R_{q+1}) and other learning estimations. Equation (5) shows:

$$G(R_q, e_q) \leftarrow G(R_q, e_q) + \alpha\left[s(R_q, e_q) + \gamma \max_{e_{q+1}} G^{*}(R_{q+1}, e_{q+1}) - G(R_q, e_q)\right] \quad (5)$$

In Equation (5), where s stands for the pace of learning, there are huge discrepancies between the scheduling state and the

action space for instructional resources on the college labour education big data platform, and environmental changes are completely random. Scheduling instructional resources becomes an insurmountable obstacle due to the difficulty of solving the precise value function. The data-driven approach combines the learning-based decision-making benefit with the huge data representational advantage. To estimate the optimum value function $G^*(R,e)$ BD uses the approximation solution approach when dealing with high-dimensional states and action spaces. This involves training the parameter using the parameterized value function $G_\theta(R,e)$, therefore Equation (6) shows:

$$G_\theta(R,e) \approx G^*(R,e) \tag{6}$$

After establishing an approximation value function, BD uses the real value function to conduct a gradient descent process to determine the optimum action. Using the value function iteration rule of labour-learning first generates the loss function $D(\theta)$ to derive the approximate value function, i.e. Equation (7) and (8) shows:

$$G^*(R,e) \leftarrow G\left(R_q, e_q\right) + \eta\left[W_R^e + \gamma \max_{e\acute{\epsilon}E} G\left(\acute{R}, \acute{e}\right) - G(R,e)\right] \tag{7}$$

$$D(\theta) = (Target\ G - G_\theta(R,e))^2 \tag{8}$$

Which is where the learning rate and the target network's target value, Target G, come from. Equation (9) is shown as follows:

$$Target\ G = W_R^e + \gamma \max_{\acute{e}\epsilon\acute{E}} G_\theta\left(\acute{R}, \acute{e}\right) \tag{9}$$

To optimize the weight parameter, one uses the gradient descent approach to apply the gradient operation on the BD loss function after getting it. This process entails in Equation (10):

$$\nabla_\theta D(\theta) = \left[W_R^e + \gamma \max_{\acute{e}\epsilon\acute{E}} G_\theta\left(\acute{R}, \acute{e}\right) - G_\theta(R,e)\right] \nabla_\theta G_\theta(R,e) \tag{10}$$

The gradient of the loss function is denoted as $\nabla_\theta D(\theta)$.

The college labour education big data platform uses the BD algorithm to develop teaching resource work scheduling. Start by setting up the simulation's environment and hyperparameters. Then, check the task queue for user-submitted jobs and monitor the environment's status using the scheduling method. The scheduler may then begin to simulate the scheduling of teaching resources, assign tasks to virtual machines, and determine whether the current step of scheduling teaching resources is bigger than the defined exploration step. Finally, check to see whether the deployment is at full capacity. If so, the scheduling of resources should be halted. If not, go ahead.

To further assist colleges and universities in improving the teaching effect and quality of labour education, personalized recommendations of teaching resources are carried out after scheduling them in the big data platform of labour education in colleges and universities. This ensures that the teaching resources of labour education are tailored to meet students' needs better. To effectively screen labour education teaching resources and achieve personalized recommendations, this research uses the scattering similarity measurement approach to determine the degree of similarity between teaching resources as a signal source.

Initially, the -scatter suggestion system builds the efficiency in the labour training assessment matrix, which primarily includes j sets of users $L = \{l_1, l_2, \ldots, l_j\}$ and i sets of courses $P = \{n_1, n_2, \ldots, n_i\}$, with W_{ij} representing the scores for materials (j) by users (i). One way to represent a matrix of ratings is given in Equation (11):

$$W_{i*j} = \begin{bmatrix} s_{11} & s_{12} \cdots & s_{1j} \\ \vdots & \vdots\ \vdots & \vdots \\ s_{i1} & s_{i1} \cdots & s_{ij} \end{bmatrix} \tag{11}$$

The computation of -scatter may be expressed as:

$$N_\alpha(k,u) = \frac{\int \alpha k + (1-\alpha)u - k^\alpha u^{(1-\alpha)} a\mu}{\alpha(1-\alpha)} \tag{12}$$

And the two non-normalized probabilities linked to the variable i are represented by 1 $k(i), u(i)$. Where μ is the Lebesque measurement an equation for $\mu_{a(i)}$ and α is W. The α-scatter, as shown in Equation (12), may be thought of as a convex function linked to $k(i)$ and $u(i)$.

The- scattering method is used in the personalized distribution of educational materials, drawing inspiration from the disparity between two sources. A user-teaching material evaluation array may be generated using the rating data of j users on n resources. A data source that may be used is the user ratings of teaching resources. By comparing teaching resources x and y using -scattering, one can determine the differences between the two for curriculum implementation. The total number of ratings in the data sources for x and y, respectively, and the number of ratings having a value of the labour education teaching resources data sources for x and y, respectively, are denoted by V_x and V_y, respectively. Now that a symmetry is being suggested in Equation (13):

$$\alpha = \frac{V_x}{V_x + V_y} \tag{13}$$

According to what is known so far, the value of $B_\alpha(x, y) = B_\alpha(y, x)$ is used to reflect the difference between the two labour education teaching materials; a lower value indicates a higher resemblance.

$$Sy(x, y)_\alpha = \frac{1}{1 + B_\alpha(x, y)} \tag{14}$$

Equation (14) shows the α -scatter similarity formula for educational development, which is not dependent on the common score, can improve the effectiveness of labour education instruction in higher education institutions and enable personalized recommendations of teaching resources within the labour education knowledge base, as previously stated.

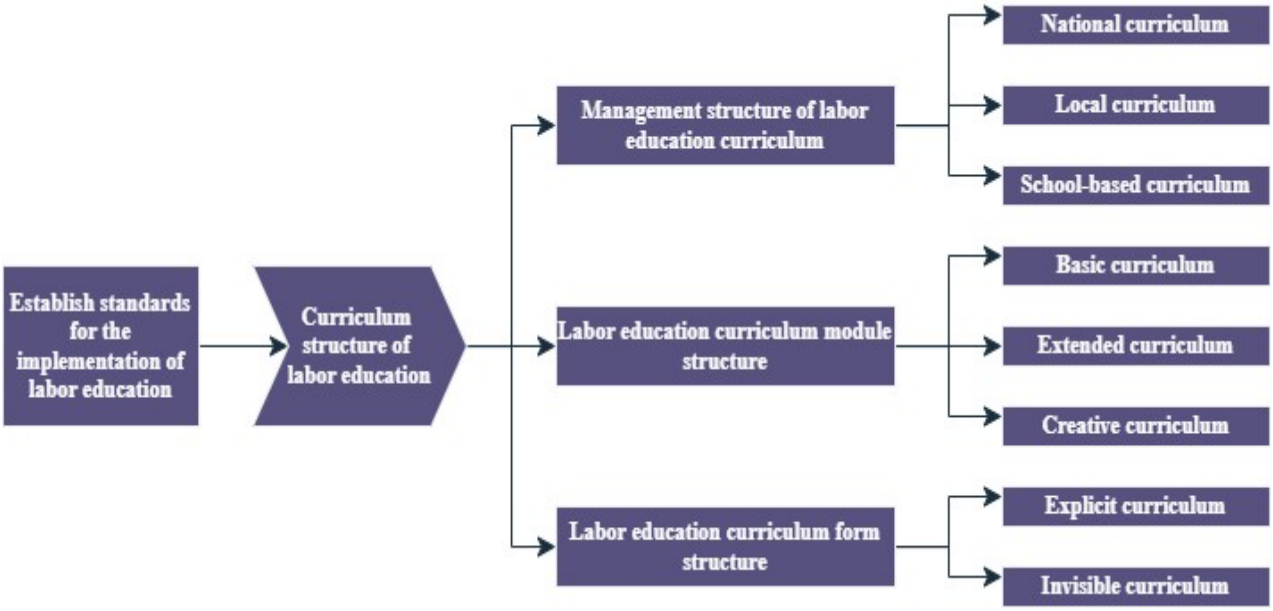

Figure 4: Curriculum implementation for University labour education

The curriculum is the primary tool schools use to shape their students and the primary means by which students acquire knowledge; as such, colleges and universities should prioritize the development of a curriculum for occupational education, incorporate occupational education into their talent development strategy, and refine their course format (see Figure 4). The first order of business is to better combine vocational training with academic majors. We need to make it clear that student's knowledge and abilities in the workplace are much improved by labour education and that it is an essential component of professional courses. Additionally, we need to ensure that students develop the right labour conceptions and professional awareness. Second, the talent training plans for different majors feature the idea of a "craftsmanship spirit" that has to be completely used. We need to enhance the applicable curricular system by considering the features of various majors and students' real demands; we also need to make sure that students are motivated and inspired by their coursework, and we should combine classroom theory with real-world experience. As a third point, we should always look for ways to improve the course materials. The "spirit of craftsmanship" should guide our classroom activities, students' professional competence should be a central component of their labour education, and we should strive to boost their practical skills. Colleges need to reflect on their labour education experiences and determine a fair labour education system that works for their institution. In addition to establishing a dedicated labour education propaganda group and bolstering school-wide

propaganda of labour spirit, one can also implement an organic integration of labour education and professional teaching, scientifically incorporating labour education content into students' professional curriculum design. By incorporating students' professional and social practices into the labour assessment project, we may create an evaluation mechanism for labour instruction that is both successful and efficient. Colleges and universities should make sure their campuses are safe places to learn, and they should try to include diverse educational materials in their curricula. Conventional trade training is still an important part of the industry today. Students need a physically and culturally robust learning environment to understand and fully engage with the production and labour process. Raise funds to construct labour education bases and other necessary facilities and equipment. Another way to enhance the physical environment for labour education is to find better ways to use existing school venues, classrooms and laboratories as practice fields. This can be achieved by creating platforms for school-enterprise cooperation and industry-education integration and by researching the resources of school labour education sites. At the same time, to better serve their students, the teachers participate in ongoing professional development.

There can be no separation between propagandizing social labour ideas and building labour teaching mechanisms in universities. So that students may learn from the examples set by social model workers and develop a passion for and commitment to their profession, universities should host talks by these influential people. To begin, colleges and universities should improve their training programmes for courses in labour education, create an outline of the skills students will need, optimize their curricula, study the theoretical accomplishments of foreign labour education programmes, base their decisions on students' needs for personal and professional development, introduce these programmes, return to traditional classroom instruction, and depend on classroom instruction to guarantee the growth and effectiveness of labour education programmes.

Second, colleges and universities should use internal and external resources to build a labour education curriculum, develop new methods of teaching labour, expand coursework in labour practice, and ultimately combine theoretical and practical training in the field. A professional practice curriculum system, including a practising teaching mode, introducing enterprises into schools teaching mode, a teaching mode of one professional skill professional experience, etc., must be built to fully utilize the cooperative education function of schools, schools and enterprises, and to integrate production and education further. Third, revamp the labour education curriculum by adding a required "General Theory of Labour" for first-year students, incorporating more material about the traditional national virtues into university labour education programmes, and developing a "six skills of labour" course to strengthen general labour education.

4. Analysis and results:

Educational big data offers a solution to the challenges students face falling behind in school. It can enhance their school education, help them receive an education that meets their expectations, and use learning analysis technology to create personalized learning plans. In the big data-driven decision-making collaborative innovation model, dominated by businesses creating platforms and universities applying, universities can fully utilize their resources according to actual needs and work with the government and businesses. Combining the three entities' strengths might streamline platform management, data processing, analysis, and application. The development of educational administration personnel's data information literacy—their capacity for data thinking, processing, and analysis—and the cultivation of talent in big data technologies would simultaneously be aided by three groups. Meanwhile, educational institutions should make the most of their strengths, increase opportunities for student internships, build more relevant practice sites, strengthen their training bases, accommodate a variety of labour education approaches, and more.

Dataset Description: Globally, data analysis is evolving at a rapid pace. Experts in mining unstructured data sets for insights are in high demand. Job postings in this field generally include the minimum degree needed to begin the hiring process. Using results from the yearly poll of Kaggle portal analysts, the dataset [25] will try to address these concerns. Nearly twenty thousand individuals filled out the survey. The study's overarching goal is to look for correlations between various variables about data analysis and participants' degree of education.

i) Evaluating the Efficiency of Labour Training Programmes:

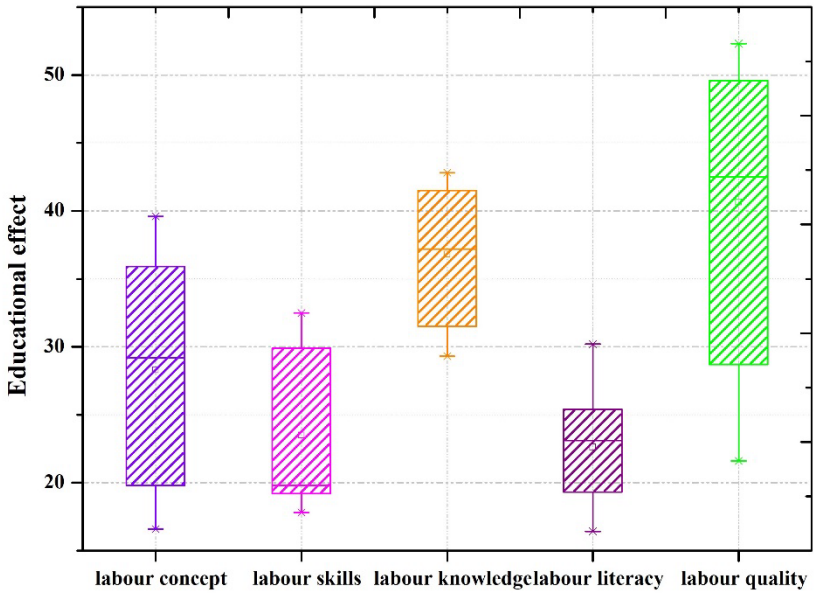

Figure 5: Evaluating the Efficiency of Labour Training Programmes

Exploring the five parameters and analyzing the impact of labour education via 1 class hour(mins) allows for a more thorough analysis of its practice in professional institutions and universities in modern times, which is calculated using Equation (11). Figure 5 displays the evolution of the new era's labour education practice efficiency at the university and higher vocational college levels. Results show that following 60 minutes of practical training, there is a 0.27 improvement in labour concept, a 0.29 improvement in knowledge, a 0.29 improvement in skills, a 0.26 improvement in quality, and a 0.24 improvement in literacy. Higher professional institutions and universities have significantly improved the influence of labour education in the modern age.

ii) Enhanced labour education programmes:

Table 1: Programs to Enhance Labour Education

Education programs	Enhanced assessment index system
Setting up a mechanism for monitoring and assessing school-based occupational education programmes.	There should be an examination of the educational environment, educational resources, the labour process, and educational accomplishments as part of the assessment index system for vocational education in higher vocational institutions.
Creating a mechanism to assess the quality of instruction provided by educators.	Schools, students, and instructors should form a multi-evaluation body at educational colleges, and the labour literacy of instructors should be used as a metric for both the quality of instruction and the final grade at the end of the academic year.
Planning to test the student's ability to read and write about the workplace.	It follows the principles of integrating formative and final evaluation, multifaceted and key evaluation, and teacher and student evaluation, and it uses labour values, skills, aptitude, behaviours, and standards as the assessment elements.

Colleges and universities should enhance their labour education assessment systems, as shown in Table 1. The monitoring and evaluation system of labour education ensures its effectiveness. A lack of a rational and scientific framework for

supervising and evaluating occupational and higher education programmes in labour education is a major reason these programmes have failed. Institutions of professional higher education should review the modern-day national standards for labour education, conduct evaluations of their faculty's labour education programmes, and use the results to identify areas for improvement in their faculty's labour education. Furthermore, a significant component of the labour education examination system at higher professional institutions and universities is the mechanism for evaluating students' labour literacy.

iii) Implementation of Labour curriculum:

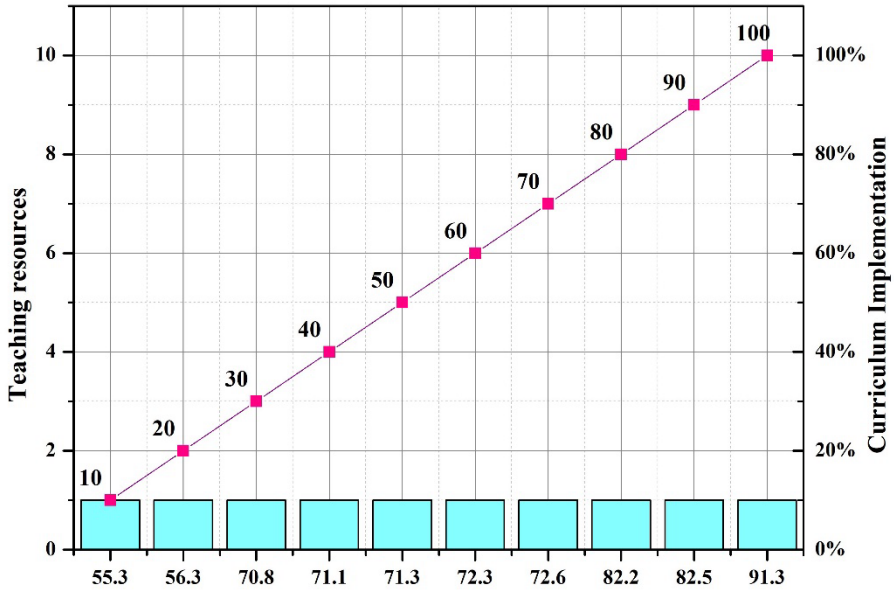

Figure 6: Implementation of Labour curriculum

Improving the route of labour education curriculum implementation is critically important for solving the existing difficulties with labour education curriculum expectoration since curriculum implementation is the key to the curriculum system (see Figure 6). The execution of the curriculum has to be improved first and is calculated using Equation (13). Classroom instruction is the mainstay of today's labour education curriculum, notwithstanding its limitations in accessibility, efficiency, effectiveness, and efficiency of time and place. When asked about the objective of teaching, most educators narrow their focus to instilling a certain set of skills in their students. However, the core of vocational education encompasses much more than that, touching on topics such as idea, habit, quality, and spirit.

Regarding lesson plans, lecturing and showing students how to do something won't cut it for labour education. A well-rounded curriculum for labour education should include traditional classroom instruction and alternative formats, such as extracurricular activities and work-study programmes. School labour education programmes would benefit greatly by using existing social, campus, and family resources.

iv) Development in labour skills training:

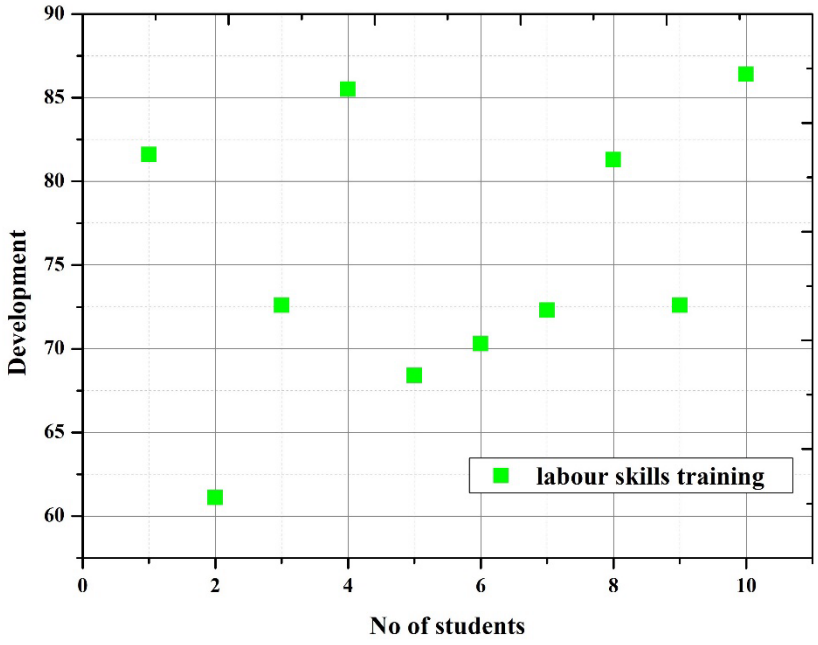

Figure 7: Development in labour skills training

College labour education curriculum, campus culture, teaching staff professionalism, and social environment significantly impact students' development as craftspeople during college labour education (refer to Figure 7). Among these factors, using Equation (14), a correlation value of 0.659 indicates the strongest relationship between a curriculum emphasizing craftsmanship and students' ability to map their future careers. College students' knowledge of the artisan spirit of labour education and its nurturing is improved by more precise career planning, greater self-requirement, and a better educational environment. Furthermore, there is a 0.565 link between the campus culture and individual motivation. A good school culture may foster students' practical enrichment and acquisition of information following their growth in labour education.

5. Conclusion:

Training people for new occupations and sectors is a pressing concern in today's rapidly evolving educational landscape. The duty of labour education to realize the national educational ideal and achieve social progress is mirrored in labour education, reflecting education's dedication to enhancing students' development. To effectively establish and carry out labour education, a curriculum is essential, and educational practice is a dynamic interpretation of that curriculum. In addition to helping labour education grow more efficiently, building a comprehensive curriculum system can address what some see as a "deficiency" in college and university labour education programmes, get faculty and students excited about the field's significance, and transform it into a powerful tool for fostering the next generation of leaders. Big data technology is essential to the growth of college and university labour education programmes, and programmes must be fully integrated with data-driven decision-making to improve innovation in college and university labour education programmes, fostering students' work ethic and creativity. With the labour education platform providing students with more diverse labour teaching resources and effective discussion teaching, further improving students' understanding of labour education and helping them form a correct view of labour, the average value of students' overall satisfaction after actual teaching reaches a high. One should fully understand the functions of labour education, guide students' labour skills with labour education's values, cultivate people, raise labour education's value, achieve the comprehensive goals of cultivating morality, wisdom, physique, education of beauty, and innovation through labour, and push labour education's construction to new heights. To put labour education into practice, universities must first shift their perspective on the subject and make clear the new period's critical practical importance of labour education as well as its crucial supporting function in the development of college students' complete quality. Higher education institutions can better raise the quality of their instruction and produce well-rounded professionals by bolstering labour education.

The study promotes vocational school feedback and evaluation. To accommodate students' learning patterns and progress, teachers adjust their techniques. Finally, labour education policy should encourage entrepreneurship and innovation since extracurriculars influence labour literacy. These curricula may boost students' creativity, leadership, and practical skills for

modern industrial jobs. Model robustness, cross-validation, reliability, and applicability increase with expansion. Global labour literacy education dynamics should be addressed. Comparative labour education and labour market preparedness may impact international education and policy. Promoting and implementing labour education holistically for higher education in the new age to fully enhance personnel training is of major relevance. There is a long-term and ongoing need for study in this field since college and university labour education takes many forms and exhibits diverse features in different circumstances. The researchers want to revisit this work in the future to address its limitations.

References:

1. Wu, S., Duan, J., & Luo, M. (2024, February). Evaluating and analyzing student labour literacy in China's higher vocational education: an assessment model approach. In *Frontiers in Education* (Vol. 9, p. 1361224). Frontiers Media SA.
2. Xiujuan, Z. Exploration on the Implementation Path of" Craftsm anship" Cultivation of College Students' Labour Education.
3. Wang, L. (2021). On the Practical Path of College Labour Education in the New Period.
4. Rong, X., & Liu, Y. (2023). Exploration of Professional Labour Education in Vocational Colleges. *Journal of Education and Educational Research*, *5*(3), 256-259.
5. Shao, Z. Informatization Innovation Practice of Labour Education in Colleges and Universities in the New Era. *Applied Mathematics and Nonlinear Sciences*, *9*(1).
6. Li, C., & Li, W. (2022). Research on the Innovation of Labour Education Based on the Integration of "Five Educations" in Colleges and Universities. *Advances in Physical Education*, *13*(1), 17-25.
7. Zhang, Q., & Cheng, M. (2023). Research on the promotion path of labour education in local colleges and universities from the perspective of the integration of five disciplines. In *SHS Web of Conferences* (Vol. 166, p. 01062). EDP Sciences.
8. Chang, S., Luo, G., Li, X., Tan, W., & Ping, Y. (2024). Implementation Ways and Risk Analysis of Big Data Analysis in the Construction of Labour Education in the New Era. *Transactions on Social Science, Education and Humanities Research*, *4*, 11-14.
9. Zhang, J. L., Long, K. L. Y., & Yuan, M. X. (2021). Connotation and Realization Path of Labour Education in Universities-Based on the Perspective of Chinese Universities. *International Journal of Service Management and Sustainability*, *6*(2), 99-112.
10. Deng, K. (2021). Explore How to Integrate Curriculum Ideology and Politics into the Content of Computer Basic Courses in Colleges and Universities. *Learning & Education*, *10*(7), 205-206.
11. Lu, L. (2022). ANALYSIS OF THE EVALUATION SYSTEM OF LABOUR EDUCATION IN HIGHER EDUCATION BASED ON A PSYCHOLOGICAL HEALTH PERSPECTIVE. *Psychiatria Danubina*, *34*(suppl 5), 380-380.
12. Huang, L. (2023). The" Changes" and" Constants" of Labour Education in Colleges and Universities in the New Era. *Journal of Education and Educational Research*, *6*(1), 53-57.
13. Yang, L., & Yang, F. (2022, July). The practice path of integrating labour education into ideological and political theory course. In *2022 3rd International Conference on Mental Health, Education and Human Development (MHEHD 2022)* (pp. 260-264). Atlantis Press.
14. Chen, Y. (2023). Exploration and Practice of Labour Education in Higher Vocational Colleges and Universities in the New Era Based on Big Data Analysis. *Applied Mathematics and Nonlinear Sciences*.
15. Li, Y. (2023, April). Empowering Labour Education Based on Construction of Digital Information Platform. In *2023 IEEE 3rd International Conference on Electronic Communications, Internet of Things and Big Data (ICEIB)* (pp. 235-240). IEEE.
16. Chen, X., Zhang, G. F., & Chen, L. L. (2023). Exploration on the Integration of Labour Education in Universities, Elementary and Secondary Schools in the New Period. *Frontiers in Educational Research*, *6*(15).
17. Brown, P., & Souto-Otero, M. (2020). The end of the credential society? An analysis of the relationship between education and the labour market using big data. *Journal of Education Policy*, *35*(1), 95-118.
18. Ivancheva, M., & Garvey, B. (2022). Putting the university to work: The subsumption of academic labour in UK's shift to digital higher education. *New Technology, Work and Employment*, *37*(3), 381-397.
19. Ponomarenko, N., Polyansky, P., Shkurat, I., Romanenko, M., & Tolochko, S. (2023). Quality management of higher education for increasing the competitiveness of labour resources.

20. Chen, X., Zhang, G. F., & Chen, L. L. (2023). Exploration on the Integration of Labour Education in Universities, Elementary and Secondary Schools in the New Period. *Frontiers in Educational Research*, *6*(15).
21. Huang, L. (2023). The" Changes" and" Constants" of Labour Education in Colleges and Universities in the New Era. *Journal of Education and Educational Research*, *6*(1), 53-57.
22. Wu, A. (2023). Cultivation of Labour Values in Schools and Universities in the AI Era: Logic, Problem, and Strategy. In *SHS Web of Conferences* (Vol. 174, p. 03022). EDP Sciences.
23. Wang, Y., Hu, D., & Sun, M. (2021). An analysis of labour education ideas for college students in China. *Education, Sustainability & Society (ESS)*, *4*(1), 25-27.
24. Pan, G. (2020). Exploration of optimizing the path of labour education for college students. *International Journal of New Developments in Education*, *2*(9).
25. https://www.kaggle.com/code/michau96/education-level-affects-data-analysis