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Article

Multi-model analysis of the cultivation path of practical ability of new business talents under the environment of digital transformation

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Abstract: Against the background of digital technology reshaping the industrial pattern of new business discipline, the cultivation of its talents' practical ability has become an important driving force for the development of the industry. This paper builds a model of factors influencing the practice ability of new business students based on five perspectives: school-enterprise collaboration, teacher team, curriculum content, practice base and innovation ability. The traditional structural equation model is introduced and the exploratory structural equation model is established, which realizes the simultaneous estimation of model parameters and variable selection. The research variables are screened based on the model of influencing factors of practice ability of new business students, and the path of structural equation modeling of influencing factors of practice ability of new business talents is plotted after validity and goodness-of-fit tests. All path coefficients of the influence factors of practice ability of new business talents have significant statistical differences (p=0.000), and all the research hypotheses in this paper are valid. That is, the direction of cultivating the practical ability of new business talents focuses on promoting the collaborative participation of schools and enterprises in the curriculum, the construction of hardware support, and strengthening the construction of teaching teams of full-time and part-time teachers.

Keywords: structural equation modeling; practical ability influencing factors; new business talent cultivation; model parameter estimation

1. Introduction

Currently, human society is in an important period of transformation from the industrialized era to the digital era. The digital transformation caused by digital technology has resulted in an all-round change in the way of work, organization and even business model, especially involving changes in the digital business application model and the resulting employment reconfiguration [1-2]. Under the continuous upgrading and development of the Internet as well as e-commerce technology, the traditional business circulation service industry has been completely transformed and upgraded into the era of big data, cloud computing, intelligence, and economic sharing, and the traditional commercial brick-and-mortar stores have been gradually replaced by e-commerce [3-5]. At the same time, the digital transformation also has an important impact on the change of business model, the traditional business training mode in the era of digital transformation has not adapted to the development of the new business model, and more and more exposed to the new demand is out of step with the new demand, detached from the application of the new business model, decoupled from the enterprise, the new core quality of the new business capacity is not strong and other prominent problems [6-10].

Digital transformation has a far-reaching impact on the change of the nature of work in the business field, changes in the structure of the labor market, the flattening of the form of work organization and the flexibility of the form of employment, which puts forward new requirements for the cultivation of business vocational education talents in the new era of digitalization [11-13]. As the training of business talents in higher education institutions, only by adapting to the trend and adjusting the cultivation strategy of new business talents can we adapt to the development of social economy and cultivate talents who are “cross-border integration”, ‘innovative’ and “composite” with the knowledge of the application of digital technology and the expertise of new business. The new business talents who understand the application of digital technology and new business expertise can only be cultivated in order to adapt to the development of social economy, “cross-border integration”, “innovative” and “composite” unification of the new business talents [14-16]. In a number of enterprise surveys, most enterprises have begun digital transformation, and enterprises attach more importance to the financial and business qualities of business talents, problem-solving ability, professional skills application ability, digital literacy, while the training of business talents in colleges and universities pays more attention to the theoretical level, and the training in the practical level is less and more superficial [17-20]. Most business students have never had practical experience in digital technology during their school years, and it is difficult for them to integrate into the digital transformation of enterprises and practical work tasks in a short period of time after graduation. Therefore, it becomes a key proposition for business education to explore the path of cultivating the practical ability of new business talents under the environment of digital transformation and delivering highly matched talents to enterprises.

In 2023, Liu et al [21] explored the cultivation mode of new business applied talents in the context of digital economy, pointing out that the current cultivation method is unclear, the cultivation plan and assessment system are backward, and the construction of practice platforms and faculty are insufficient, and suggesting that it is necessary to clarify the talent cultivation program, improve the teaching plan, construct a multi-dimensional evaluation system, improve the faculty, and promote the connection of practice platforms in cooperation between schools and enterprises. Nie [22] provided a new practical teaching system for the new business talent cultivation in the era of digital economy builds a new practical teaching system, namely, diversified curriculum design, project-based and experiential teaching methods, practical teaching resources based on on-campus laboratories and university-enterprise cooperation, diversified and real-time evaluation and feedback mechanisms, and support mechanisms for financial and faculty teams.

In addition, scholars have provided different guidance in specific areas of business training. In the field of accounting training, Berikol and Killi [23] reveal that in the process of digital transformation, ICT software tools have been added to the curriculum of accounting majors, so that accounting students can master the ability of data analysis and strengthen the knowledge of data and cybersecurity, and Shi and Ma [24] formulate a “three- and four-integration” practical teaching strategy for the applied management accounting talents in the era of digital intelligence. Juniardi and Putra [25] pointed out that in the context of digital transformation, accounting talents must master the new technology+X and the knowledge of data analysis and network security. , accounting professionals must master new technologies + traditional accounting principles, and that the transformation of the accounting program +X includes, but is not limited to, techno-ethics, sustainability, and so on.

In the field of financial talent training, Sungkhamanee [26] pointed out that financial analysis and decision-making, professional ethics, and communication skills are the necessary skills for financial professionals, and financial talents with the ability to apply emerging technologies are more competitive. Guo et al [27] emphasized that, in the era of artificial intelligence, advancing the modernization of teaching materials, strengthening the teaching practice and school-enterprise cooperation, and establishing and executing a financial technology laboratory is an effective way to promote practical training of financial talents and an important way to cultivate financial interdisciplinary talents. Zhang and Peng [28] constructed a digital technology-based training platform for financial professionals' knowledge ability by utilizing the operational data and financial data of enterprises in the financial industry, which can simulate the real financial business scenarios and intelligently and dynamically promote the students' knowledge level and practical Ding et al [29] pointed out that under the digital economy, the core competencies required for cross-border e-commerce applied talents are digital technology application ability, interdisciplinary synthesis ability, practice and innovation ability, and cross-cultural and communication ability, which need to optimize the curriculum content and teacher team, strengthen the integration of industry and education and international cooperation, and unite with the government, industry, enterprises, and schools, and dynamically adjust the cultivation program.

This paper combines the characteristics of the development of new business majors in the digital era, and takes the collaborative participation of schools and enterprises and the teaching team as the main body, discusses the relationship between them and the practical ability of students from different perspectives and puts forward the corresponding research hypotheses, and constructs a model of the factors influencing the practical ability of students in the new business majors. Meanwhile, the structural equation model is chosen as the analysis method of research variables, the mathematical operation of the model is described in detail, and the selection of its variables is optimized. The research sample is selected, the data set of the research sample is established, and the validity and goodness-of-fit tests of the proposed model variables are carried out sequentially to complete the research preparation. The proposed structural equation modeling was used to calculate the fit indices of the model of the factors influencing the practical ability of new business students, and the model path was modified based on the fit indices to verify the research hypotheses.

2. Analysis of factors influencing students' practical ability and model construction

2.1. The relationship between school-enterprise collaborative participation in the curriculum and students' practical ability

When students first enter the school, they do not have a deep knowledge of the specialty and do not have a systematic evaluation of the curriculum, and it is only in the long-term study that they will have their own feelings and opinions about the curriculum of the specialty. Therefore, the form and weight of all kinds of courses have an important influence on the cultivation of students' practical ability, and the cutting-edge of course content and teacher-student interaction have a positive effect on the cultivation of business students' innovation ability. Meanwhile, in the field of business majors, school-enterprise cooperation can ensure that the teaching content is closely aligned with the industry demand, make the courses closer to the actual work situation, and improve the practical ability of students. Through in-depth cooperation with business industry enterprises, schools can understand the latest development of the current business market and grasp the employment trend of the business industry, so as to scientifically design the curriculum and cultivate the practical skills and professionalism required by students. Based on this, the following hypotheses are proposed:

H1: School-enterprise collaboration in setting curriculum system has a significant positive effect on students' practical ability

2.2. Relationship between the construction of teachers' teaching corps and students' practical abilities

Teachers are the guides of the students' learning path, and the students' learning in school, the mastery of professional knowledge and ability are mostly influenced by the teacher team. During the school period, the long-term contact with them is the teachers in the classroom teaching and usual communication management after class. Teachers' teaching ability, their own professional skills, social service ability, industry awareness, management of students' daily behavior, and even after graduation to guide the work, as well as the improvement of the overall quality of the students have a very important role. Full-time teachers usually have rich subject knowledge and teaching experience, and they are able to impart theoretical knowledge and provide systematic teaching guidance in the classroom. Adjunct faculty members are professionals from industry practice areas, who can bring actual work experience and cases into teaching, provide students with more relevant teaching content and case studies, and help students establish learning cognition linked to professional practice. Therefore, the following hypotheses are proposed:

H2: Teaching team building of full-time and part-time teachers has a significant positive effect on students' practical ability

2.3. Collaborative participation of schools and enterprises in the construction of curricula and teachers' teaching teams

The faculty team is the core body of interest with dominant position and role in the whole educational ecosystem, and it is the maker of the new business education policy, the designer of the talent cultivation program, and the implementer of the whole process of teaching. The construction of full-time and part-time teachers' teaching team provides practical experience and industry insight for the optimization of the curriculum system, and promotes the flexibility and effectiveness of the curriculum system jointly set up by schools and enterprises. At the same time, the collaborative participation of schools and enterprises in the curriculum system allows enterprises to gain a deeper understanding of the school's educational philosophy and teaching objectives, broadens the development channels of full-time and part-time teachers, and also helps optimize the construction of the teaching team, prompts the transformation of the direction of the teachers' research and teaching, and pushes the teachers to adapt to the changes in the digital transformation and upgrading of the profession. The two promote each other and jointly improve students' practical ability. Accordingly, the following hypotheses are proposed:

H3: There is a significant correlation between the collaborative participation of enterprises in the curriculum system setting and the construction of teaching team of full-time and part-time teachers.

2.4. Relationship between hardware construction invested by schools and enterprises and students' practical ability

School hardware facilities are the prerequisite and foundation for professional teaching. The learning place, facilities and equipment of the school are the first impression of the students on the school. Facility conditions for professional development mainly refer to the hardware conditions for the development of new business majors, including both the school level and the professional level; including both on-campus experimental and practical training facilities and off-campus practical training bases. The facilities and conditions for professional development are the important foundation and carrier for business professional teaching, especially practical teaching, and also an important way for students to acquire vocational ability. Collaborative investment in hardware security construction by schools and enterprises provides a better quality practical learning environment, offers more diversified choices and opportunities for practical teaching, allows students to have access to advanced equipment, technology and practical projects, better develops students' practical ability, and improves their professional competitiveness. Accordingly, the following hypotheses are proposed:

H4: School-enterprise collaboration in investing in hardware security construction has a significant positive effect on students' practical ability

2.5. Teacher Teaching Team Building and School-Enterprise Input Hardware Construction

Compared with other major categories, business majors are relatively difficult to set up production-oriented experimental and practical training facilities on campus due to their special characteristics, and there are also certain difficulties in setting up virtual simulation-oriented experimental and practical training facilities. The development of practical training activities depends more on the guidance of the teacher team, so the requirements for the professional teacher team are higher. The construction of full-time and part-time teaching team promotes the close cooperation and interaction between schools and enterprises, which makes the construction of hardware guarantee of school-enterprise cooperative input smoother and more efficient, and also helps the school to carry out the construction and upgrading of learning, practical training and internship facilities and equipments. At the same time, the school-enterprise collaborative investment in hardware security construction of different hardware facilities, practice scenarios and teaching resources can stimulate the innovative consciousness of the teaching team of full-time and part-time teachers, thus improving the quality of practical teaching. Therefore, the following hypotheses are proposed:

H5: There is a significant correlation between full-time and part-time teachers' teaching team construction and school-enterprise cooperative investment in hardware guarantee construction.

2.6. Relationship between school-enterprise collaborative programs and school-enterprise input hardware construction

The setting of the curriculum system is directly related to the construction of other space and equipment supporting the school, which provides targeted guidance for the construction of hardware protection, decides the input of hardware protection projects according to the actual needs and teaching objectives, ensures that the construction of hardware is closely aligned with the curriculum, and accelerates the standardized system construction and the pace of the construction of information technology and other policies on the top-level design to promote the education of the new business majors and other policies of the science. On the contrary, the investment in hardware security construction by school-enterprise collaboration also directly helps various courses to improve the teaching effect, provides strong support for the implementation of the curriculum system, makes the curriculum system more practical and targeted, and helps students to truly master the knowledge and skills they have learned. Thus, the school-enterprise cooperation in setting up the curriculum system is to better meet the needs of industrial development and improve the practical ability and employment competitiveness of students, while the construction of hardware security is to provide richer and more practical practical teaching scenes and facilities. Both of them promote each other and jointly promote the excellent development of vocational education. Accordingly, the following hypotheses are proposed:

H6: There is a significant correlation between school-enterprise collaborative curriculum system and school-enterprise collaborative investment in hardware security construction.

To summarize, the impact of school-enterprise collaborative curriculum system, full-time and part-time teachers' teaching team construction and school-enterprise collaborative input hardware guarantee construction on students' practical ability is explored. At the same time, we study the relationship between school-enterprise collaborative curriculum system and full-time and part-time teachers' teaching team construction, full-time and part-time teachers' teaching team construction and school-enterprise collaborative input hardware guarantee construction, and school-enterprise collaborative curriculum system and school-enterprise collaborative input hardware guarantee construction. According to the above assumptions, the preliminary construction of the model of influencing factors of practice ability of new business students is shown in Fig. 1, and it focuses on exploring the degree of influence of school-enterprise collaborative setting curriculum system, full-time and part-time teacher teaching team construction and school-enterprise collaborative input hardware guarantee construction on the cultivation of students' practice ability.

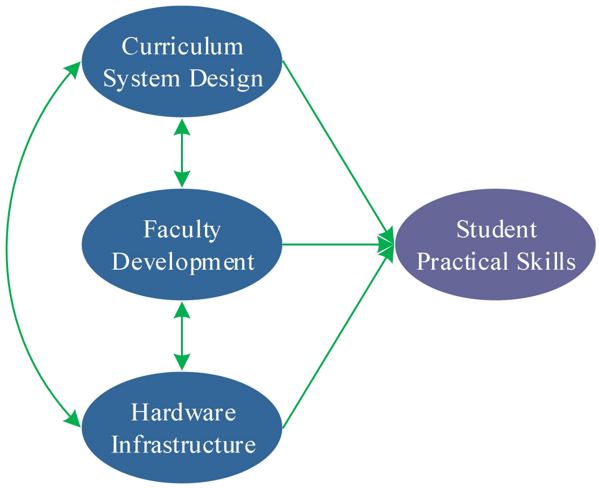

Figure 1. Model of Influencing Factors of Students' Practical Ability.

3. Analytical approach to the model

3.1. Structural equation modeling

3.1.1. Model description

Structural equation modeling (SEM), as a commonly used statistical analysis method, combines influence factor analysis and path analysis, and is specifically designed to process and analyze complex multivariate data.SEM models are unique in their ability to not only process complex data, but also to estimate latent variables and measure model relationships among complex variables.SEM has become a popular and critical statistical tool in current academic research and several professional fields, and is widely used in economics, sociology, and management. A common and critical statistical tool in academic research and many professional fields, widely used in economics, sociology, management and other fields.

There are three different types of variables in structural modeling: observed variables, latent variables, and errors. Latent variables are variables that cannot be measured directly. To accurately reflect a latent variable, multiple observed variables need to be measured, and the interaction between latent variables is measured by the covariance between them; observed variables are variables that can be directly observed and measured, but there will be a certain amount of error in the measurement process.

Structural equation modeling (SEM) is a statistical technique that utilizes the covariance matrix between variables to study their interrelationships, essentially expanding on the general linear model.SEM is divided into two main core components: the measurement model and the structural model. The main role of measurement modeling is to establish the connection or relationship between an observed variable and the latent variable it represents; whereas structural modeling aims to evaluate the interaction between latent variables. In structural equation modeling, these relationships between potential variables are estimated along with the measurement model. When all the variables of a structural model are observed variables rather than latent variables, the structural equations are reduced to a system of models describing the structural relationships among the observed variables.A schematic presentation of the SEM is shown in Figure 2.

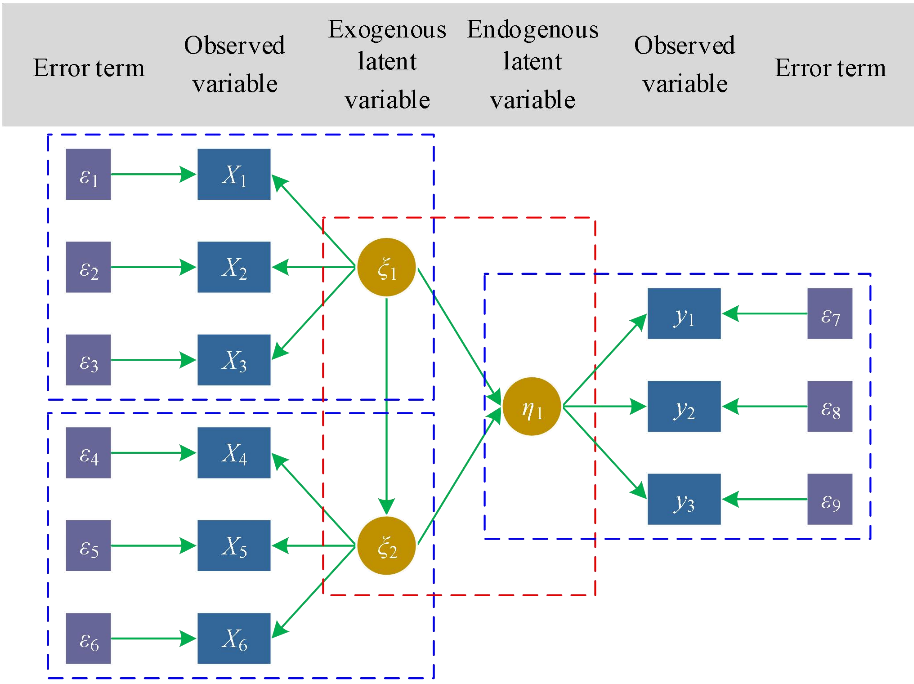

Figure 2. Structural equation.

(1) Measurement model

The general equations of the measurement model reflecting the measurement pattern are shown in Eqs. (1)-(2):

$$x = \Lambda_x \xi + \delta \tag{1}$$

$$\gamma = \Lambda_\gamma \eta + \varepsilon \tag{2}$$

where ξ denotes exogenous latent variables, η denotes endogenous latent variables, x, γ denote the observed variables of influence of ξ and η, respectively, Λ_y denotes the matrix of factor loading coefficients of x vs. ξ, Λ_y denotes the matrix of factor loading coefficients of y with the matrix of factor loading coefficients of η, and δ and ε denote the error terms that cannot be explained by ξ and η.

(2) Structural model

The structural model represents the causal relationship between potential variables, such as equation (3):

$$\eta = B\eta + \Gamma \xi + \zeta \tag{3}$$

where η is the matrix of endogenous latent variables, ξ denotes the matrix of exogenous latent variables, B denotes the matrix of path coefficients between the values of endogenous latent variables, Γ denotes the matrix of path coefficients between exogenous latent variables, and ζ denotes the matrix of interference terms that cannot be explained by endogenous latent variables.

3.1.2. Structural Equation Modeling with Latent Variable Variables Selection

The traditional structural equation is modeled as equation (4):

$$\begin{cases} y_i = \mu + \Lambda \omega_i + \varepsilon_i, & i = 1, \cdots, n \\ \eta_i = B\eta_i + \Gamma \xi_i + \zeta_i, & i = 1, \cdots, n \end{cases} \tag{4}$$

In general, the exogenous and endogenous latent variables in Eq. (4) are specified in advance based on some prior information. In practice, however, researchers may not have access to such prior information, and mis-specification of exogenous and endogenous latent variables may lead to unreliable statistical inference. Exploratory structural equations enable variable selection on the latent variables themselves, thus avoiding the need to specify exogenous and endogenous latent variables.

The exploratory structural equation model for SEM is shown in equation (5):

$$\begin{cases} y_i = \mu + \Lambda\omega_i + \varepsilon_i, & i = 1, \cdots, n \\ \omega_i = \Pi\omega_i + \delta_i, & i = 1, \cdots, n \end{cases} \tag{5}$$

Note that equation (5) can be transformed into equation (4) when $\Pi = \begin{pmatrix} B & \Gamma \\ 0 & 0 \end{pmatrix}$, where $\omega_i = \begin{pmatrix} \eta_i \\ \xi_i \end{pmatrix}$. The idea of variable selection is adopted to utilize the Π matrix's in Eq. (5) for variable selection, so as to determine the exogenous latent variables and endogenous latent variables, and to obtain the internal structure among the latent variables.

According to the exploratory structural equation modeling Eq. (6) can be obtained:

$$y_i \left| \mu, \Lambda, \pi, \omega_i, \varepsilon_i, \delta_i \sim N\left(\mu, \Lambda\Sigma\Lambda^T + \Phi_\varepsilon\right) \right. \tag{6}$$

which has the formula (7):

$$\Sigma = \left(I_q - \Pi\right)^{-1} \Phi_s \left(I_q - \Pi^T\right)^{-1} \tag{7}$$

3.2. Design of Study Variables and Study Preparation

3.2.1. Variable design

The essence of variable design is to transform the latent variables that cannot be directly measured in the research hypotheses above into observational variables that can be directly measured, and it is the process of designing an operational questionnaire. The scientific and operability of variable design directly affects the validity of the data obtained from the questionnaire, and has a greater impact on the empirical research results of the factors influencing the practical ability of new business professionals. The concept of "new business" is relatively new, and there are few questionnaires on the factors influencing the practical ability of new business majors, and this part of the research is almost in a blank stage, but the questionnaires on the factors influencing the cultivation of talents are relatively mature, and the reliability and validity of the questionnaires are also high, so when designing the questionnaires on the factors influencing the practical ability of new business majors, it is appropriate to design the questionnaires on the factors influencing the practical ability of new business majors. Therefore, when designing the questionnaire on the influencing factors of talents' practical ability in new business majors, the existing mature questionnaires can be appropriately drawn on and referred to.

3.2.2. Sample data collection

(1) Sample Size Determination

Based on the theory of structural equations, existing studies generally agree that a larger number of samples should be used when simulating the data of the model. However, how many samples are appropriate? In the academic world, it is generally explained and recognized that the ratio of sample size to measurement items can be controlled between 5:1 and 10:1 in order to ensure a good fit of the model.

In the research on the influencing factors of the practical ability of new business professionals, the data analysis of the questionnaire on the influencing factors of the training of new business professionals adopts SPSS22.0 management statistics software, and the SEM model analysis of the influencing factors of the practical ability of new business professionals adopts AMOS20.0 software as the adapted analysis software. The ratio of sample size to measurement items was controlled between 5:1 and 10:1. Since there are 50 measurement items in the questionnaire on the influencing factors of practice ability of new business professionals, a total of 500 questionnaires were distributed to ensure that the size of the sample capacity meets the basic requirements of the structural equation modeling fitness.

(2) Construction of Sample Data Set

Given that the focus of the study is on the cultivation path of the practical ability of new business professionals, the data collection focuses on the construction of new business universities, and the data collection mainly selects the top 5 universities (C1-C5) in terms of their construction results in the last five years. The respondents of the survey on the factors influencing the practical ability of new business majors are mainly students and teachers of new business majors. And considering that the schools are distributed in different geographical areas, the online survey was used to collect data. Each university distributed 1,000 questionnaires, and a total of 5,000 questionnaires on the influencing factors of practice ability of new business majors were distributed. Due to the high education level of the survey respondents and their accurate understanding of the questionnaires, the recovery rate of the questionnaires was high, and a total of 4712 valid questionnaires were recovered, with the validity rate of the questionnaires as high as 94.24%.

The demographic variables of the survey respondents of the path of cultivating practical ability of new business majors were analyzed, including age, gender, grade level, etc., and their specific statistics are shown in Table 1.The selected survey respondents included 453 teachers (9.61%) and 4259 students (90.39%), with the age group of 18-25 years old (42.49%) as the main group.

Table 1. Demographic variable information.

Characteristic		Number of people	Proportion(%)
Age	Under 18 years old	1296	27.50
	Aged 18 to 25	2002	42.49
	Aged 25 to 30	1045	22.18
	Aged 18 to 25	369	7.83
Gender	Female	2603	55.24
	Male	2109	44.76
Grade	Freshman	1359	28.84
	Sophomore	1197	25.40
	Junior	1136	24.11
	Senior	1020	21.65
Status	Student	4259	90.39
	Teacher	453	9.61

4. Optimization and Validation of the Model of Influencing Factors of Students' Practical Ability

4.1. Scale Validity Tests

4.1.1. Validity tests

Based on the proposed model of influencing factors of students' practical ability, this paper designs a questionnaire for the cultivation of practical ability of new business talents from five dimensions: university-enterprise collaboration (D1), teacher team (D2), course content (D3), practice base (D4) and innovation ability (D5). The questions under each dimension are the corresponding variables, and the specific contents of the variables are as follows:

(1) School-enterprise synergy (D1). (d12) degree of participation, (d12) breadth of participation.

(2) Teacher team (D2). (d21) Teaching ability of teachers, (d22) Teachers' business expertise.

(3) Course content (D3). (d31) meets the development needs of the profession, (d31) the weighting of theory and practice is set reasonably.

(4) Practice base (D4). (d41) perfect supporting facilities, (d42) rich learning places.

(5) Creative ability (D5). (d51) students have the ability to apply knowledge, (d52) students have the ability to make logical inferences in business, and (d53) students have the ability to express themselves clearly and smoothly.

The principal component analysis of the questionnaire of this paper was conducted using SPSS26.0, and its dimensional reliability and convergent validity are shown in Table 2, and the results of KMO and Bartlett's sphericity test are shown in Table 3.The factor analysis of the questionnaire data extracted a total of five categories, whose cumulative variance explained was 76.04%>70.00%, and whose convergent validity were all in the range of 0.664 and above (>0.400). The KMO value of the questionnaire was 0.886>0.800 and the significance in the Bartlett's spherical test value of P=0.000, the validity of the questionnaire was good.

Table 2. The judgment results of reliability and convergence.

Dimensionality	Item	Factor loading	Composite reliability	Convergent validity
D1	d11	0.894	0.765	0.664
	d12	0.925		
D2	d21	0.785	0.893	0.776
	d22	0.897		
D3	d31	0.909	0.922	0.791
	d32	0.702		
D4	d41	0.722	0.832	0.725
	d42	0.859		
D5	d51	0.879	0.806	0.709
	d52	0.844		
	d53	0.769		

Table 3. The results of KMO and Bartlett's sphericity test.

KMO test value		0.886
Bartlett's test of sphericity	Chi-square value	708.41
	df	100.0000
	sig.	0.000

4.1.2. Simulation goodness-of-fit tests

After passing the validity test, the dataset was imported into the influence model of students' practical ability to carry out the validation factor analysis, and the results of its discriminant validity test are shown in Table 4.It can be seen that the fit of each index value is >0.800, which is a good fit, and it has reached the threshold value of the standard requirements.

Table 4. The results of the validity discrimination test.

Latent variable	D1	D2	D3	D4	D5
D1	0.865				
D2	0.641	0.892			
D3	0.523	0.416	0.843		
D4	0.703	0.689	0.796	0.816	
D5	0.794	0.661	0.605	0.698	0.807

4.2. Tests and corrections of the model

Based on the proposed model of factors influencing students' practical skills, the path of the initial structural equation model was plotted in this section is shown in Fig. 3. The degree of freedom of the model is 108>0, which indicates that the model is able to be over-recognized, and able to be subjected to the model fitness test. However, among the common fitting indices of this initial structural equation model, there are p=0.041<0.05, RMSEA=0.061>0.05, and CMIN/DF=2.713>2, which do not meet the fitness criteria, so it is necessary to correct the initial model.

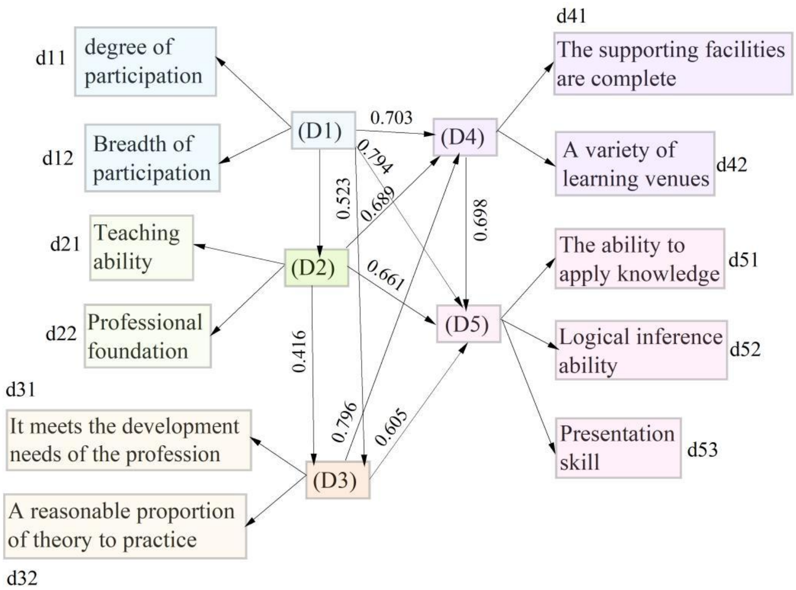

Figure 3. Initial structural equation model path.

Referring to the standard correction indexes to make certain corrections to the model is shown in Figure 4, increase factor (d13) participation attitude in the dimension of school-enterprise synergy (D1), increase factor (d23) industry visibility in the dimension of teachers' team (D2), and increase factor (d54) operating ability, (d55) analyzing and summarizing ability, and (d53) level of innovation in the dimension of innovation ability (D5). And increase the covariance between d31 and d56, d41 and d54 total two pairs of residual terms, re-run the model to get its various fitting indexes P=0.079>0.05, RMSEA=0.032<0.05, CMIN/DF=1.126<2, all to satisfy the requirements of the fitness, indicating that the model has guiding significance.

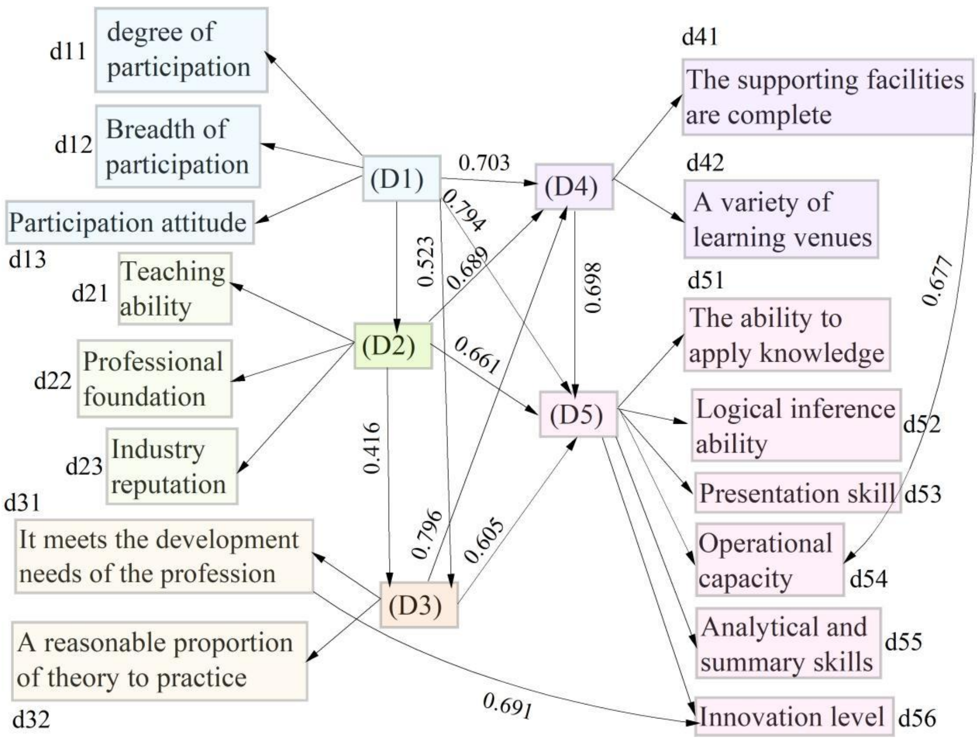

Figure 4. The revised structural equation model for practical ability evaluation.

The modified structural equation model was analyzed using AMOS 17.0 software, and the results of the model runs are shown in Table 5.The chi-square check value of its absolute fit index was 1237.51, the degree of freedom was 987, the x^2/df value was 1.254, the goodness-of-fit index was 0.988, the adjusted goodness-of-fit index was 0.906, the root-mean-squared residuals were 0.0525, the root-mean-squared estimation of the approximation error was 0.049, all of which meet the requirements. And the comparative fit index of incremental indicators is 0.967 and Tucker-Lewis coefficient is 0.991, which meets the fitting requirements. On the whole, the overall model of the revised theoretical model of the factors influencing students' practical ability performs well in fitting the data.

Table 5. The fitting result of the theoretical model.

Fitting index	Measurement model value	Standard of judgment
x^2	1237.51	Close to the degree of freedom
df	987	The bigger, the better
x^2/df	1.254	≤3
GFI	0.988	≥0.9
AGFI	0.906	≥0.8
RMR	0.0525	≤0.08
CFI	0.967	≥0.9
TLI	0.991	≥0.9
RMSEA	0.049	≤0.1

4.3. Hypothesis validation

Based on the path of cultivating students' practical ability proposed in Chapter 2, the path coefficients of the theoretical model were further analyzed in this section using AMOS17.0, and the path coefficients of the factors influencing the practical ability of new business talents and the statistical test parameters are shown in Table 6, which shows that all the hypotheses are significantly established ($P<0.05$), which are all supported by empirical data. That is to say, school-enterprise collaboration, teacher team, curriculum content, practice base and innovation ability all have a positive impact on students' practical ability, and are all effective ways to cultivate students' practical ability, and all hypotheses put forward in this paper are valid.

Table 6. Standardized path coefficients and statistical tests of the model.

The path of the model	Path coefficient	S.E.	C.R.	P	Standardized path coefficient
D1→d11	0.614	0.577	12.534	***	0.761
D1→d12	0.659	0.044	6.432	0.001	0.768
D1→d13	0.581	0.545	16.394	***	0.776
D2→d21	0.507	0.201	12.779	***	0.845
D2→d22	0.543	0.773	17.438	***	0.791
D2→d23	0.695	0.513	3.693	***	0.809
D3→d31	0.527	0.354	17.745	***	0.815
D3→d32	0.643	0.913	5.153	***	0.793
D4→d41	0.409	0.796	19.982	***	0.833
D4→d42	0.689	0.776	17.406	***	0.846
D5→d51	0.461	0.644	11.303	***	0.625
D5→d52	0.432	0.403	12.933	***	0.841
D5→d53	0.541	0.35	5.078	***	0.823
D5→d54	0.678	0.195	5.013	***	0.838
D5→d55	0.706	0.789	14.786	***	0.838
D5→d56	0.724	0.631	1.577	0.002	0.699

5. Conclusion

This paper synthesizes the new business talent cultivation needs and the development characteristics of the digital era, and proposes a model of factors influencing students' practical ability from a total of five dimensions: school-enterprise collaboration, teacher team, curriculum content, practice base and innovation ability. The model variables meet the validity required by the study, and the cumulative variance explained rate of the extracted factors is 76.04%>70.00%, and the convergent validity is 0.664 and above (>0.400). The KMO value of the questionnaire was 0.886>0.800 and the significance in the Bartlett's test of sphericity value of P=0.000. And after correction of the structural equation modeling method, the fit indices P=0.079>0.05, RMSEA=0.032<0.05, CMIN/DF=1.126<2, which showed a good fit.

The model of factors influencing the practical ability of new business students responds to the upgrading needs of digital transformation of the digital industry, and assists in adjusting the content structure of disciplines and specialties and talent cultivation programs, focusing on cultivating the practical ability of students. By promoting the deep integration of university-enterprise collaborative participation in curriculum, full-time and part-time teachers' teaching team building and hardware construction, it provides students of new business majors with a learning and development environment integrating industry and education.

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