Establishment of Core Capacity and Capacity Index Based on an Outcome-Based Ideological and Political Education Major in Chinese Universities

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Abstract

With the development of the society, most countries have begun to improve the level of education and are advocating the implementation of the theory of Outcome Based Education, which is used in this research to explore the development of a curriculum of Ideological and Political Education Major.The purpose is to determine the professional core competence, expand the core competence indicators, and determine the relative weight of the core competence indicators. 4 core capacities and 20 core capacity indices of the Ideological and Political Education Major in Chinese universities were established using the Modified Delphi Method with two types of expert questionnaires. The Analytic Hierarchy Process was used to establish a hierarchical structure, and the relative weight and ranking of each capacity index was calculated to ensure consistency and stability using the YAAHP software. The aim of the research is to further clarify the core capacity and capacity indices of education.

Keywords: outcome-based, ideological and political education, core capacity

1.Introduction

University education and the cultivation of talents are becoming increasingly linked with the development of countries and society due to the challenges of an integrated knowledge economy and globalisation. With a focus on further developing higher education, countries are investing huge amounts of manpower and resources to improve the quality and competitiveness of their higher education programmes, and striving for outstanding achievements in academic research and higher quality teaching in the hope of improving the core capacity of learners to meet the needs of talents in different professions (Fe et al., 2017; Wurdinger & Allison, 2017). As China continues to deepen its educational reform, the Ideological and Political Education Major (IPEM) is receiving more and more attention, and has become a significant component of higher education (Li, 2019; Yuan, 2019). It is important for higher education institutes to train talents and effectively deliver strong ideological guidance and political education to foster college students with the correct values (Li, 2019; Wang, 2020). This entails nurturing people who meet the needs of various professions, who, in time, could perform the important tasks of the country and nation, by implementing effective guidance in education, cultivating good habits in practical activities and guaranteeing a uniform function (Yuan, 2019). However, there are currently some problems with the IPEM of Chinese universities, such as unclear training objectives, an imperfect curriculum and unbalanced development (Li, 2019), especially in terms of training teachers with the characteristic of “practicality” (Maxwell, 2003). When cultivating people in education, attention should be paid to the changing needs of professions in order to adapt to the development of society (Harden, 2007).

Outcome-Based Education (OBE), which was proposed by Spady in the 1980s, advocates that schools focus all

courses and teaching resources on how to accurately and clearly define what learners can achieve after their studies (Harden et al., 1999). Since then, an "outcome" orientated model of curriculum development has been introduced in the international education community, which has changed the traditional focus on the learning of professional subject knowledge to a development model that intends to increase the expected growth of learners' ability (King & Evans, 1991). Some researchers integrate this concept into the project-based curriculum based on goal construction, instructional design and implementation, outcome assessment and reverse teaching improvement design methods to promote a learner-centred teaching process (e.g., teaching design, diversified assessment and evaluation, learning achievement, and the optimisation of a teaching design) (Hamidova, 2020). However, although some progress has been made in the practice of OBE in China, a systematic theoretical system and implementation framework have not been formed, and further research is needed. In view of its importance, a professional core capacity and capacity index has always been a hot issue of concern for educators at home and abroad (Wu et al., 2021). Therefore, the purpose of this study is to establish a core capacity and capacity index of the IPEM in Chinese universities based on the OBE theory.

2. Literature Review

Although the IPEM with Chinese characteristics in Chinese universities represents a huge development and plays an important role, it has new problems due to economic and social development, and the change of college students' way of working (Wang, 2020; Yu, 2022). The main content of the IPEM of college students is based on the Marxist theory (Wu, 2021), which is ingrained in the national mainstream ideology (Dilbaz & Erkılıç, 2021), reflects the country's political requirements, and serves the national political construct (Liu, 2020). This has a strong influence on the ideological consciousness in the research content (Wang, 2019; Wang & Zhang, 2016). Besides, it is unique from similar majors due to being characterised by politics, ideology, theory, practice and the times (Ai et al., 2019; Delis et al., 2019). However, there are currently problems with universities' major, such as a lack of scientific demonstration in the curriculum, and there is an urgent need of improved effectiveness and quality of professional talent training (Van et al., 2017). Hence, the professional construct lacks a systematic and complete statement of the specific requirements and the core capacity of talent training from a national strategy perspective (Zou et al., 2018).Ideological and political work in universities is epoch-making and urgent in this new era (Wang, 2020). Effective talent education is crucial for social development (Li, 2019). Hence, the IPEM in universities should focus on the actual situation of college students to design and develop the curriculum content scientifically and reasonably (Fang, 2019). In the practice of education, teachers should replace the traditional pedagogy with a new educational philosophy (Liu, 2020). Based on the foregoing, the IPEM in Chinese universities responds to the need for China's society to develop. This discipline (Liu et al., 2014), cultivates students' theoretical literacy and professional knowledge (Tao & Lv, 2022), and supports relevant work in Chinese state organs, schools, enterprises and institutions. Due to rapid and unpredictable development (Pearce et al., 2022), professional education is facing a huge challenge, which requires new thinking about traditional curriculum development methods (Vreuls et al., 2021). The current unclear situation of professional talent training in some Chinese universities makes it important to rebuild training objectives, update the professional curriculum system, promote cooperation in educational mechanisms and build platforms of professional practice (Luo, 2021).

The concept of OBE, which was proposed and defined in 1988 by the American scholar, William Spady (Biggs & Tang, 2007), is based on three assertions, the first of which is that all students can achieve success through learning. The second is that effective learning promotes more effective studying, while the third is that schools need to understand the conditions that affect the success of learning. OBE is based on the adoption of student-centred humanism to build an educational environment that provides students with the freedom to choose a course according to their professional development interests, developing students' professional skills to obtain various professional licences, and constructivism to enhance students' independent learning in an OBE environment. The integration of these three educational theories enables students to achieve their personal learning peak (Fe et al., 2017; Glasersfeld, 2005; Prideaux, 2004; Rogers, 1952; Li & Zheng, 2022). "Success for All Students" is the notion on which OBE is based (Spady, 1994).Due to the mature development and enriched research of the OBE theory (Fe et al., 2017), it has become the norm of engineering education, and is widely implemented in the signatory countries of the Washington Agreement (Memon et al., 2009; Naveed Bin Rais, et al., 2021), including the United States, Canada, United Kingdom, the Philippines, Japan, Australia and South Africa (Akir et al., 2012; Xu & Kuang, 2022; Zhou, 2022). Outcome-Based certification specifications and standards have been adopted (Felder & Brent, 2003) by most celebrated institutions (Sababha et al., 2021), including the Institute of Engineering Education Taiwan (IEET) (Cruz, 2022; Duran & Mertol, 2020) and the Accreditation Board of Engineering and Technology (ABET) in response to the

need of "continued improvement" (Duran & Mertol, 2020).The curriculum design of the OBE theory by Brown (1998) has been found to contribute to students' self-development and higher achievement (Cruz, 2022); therefore, the curriculum theory of reverse design can be included as a problem-solving method based on the curriculum development theory (Richards, 2013; Birney & McNamara, 2021). The OBE philosophy aims to cultivate application-orientated talents and provide important references and programmes for their professional development in order to meet the needs of economic and social progress by training talents in higher education (Gao et al., 2020). Since most previous researchers used Spady's (1994) definition of Outcome-Based Education , it is also adopted in this research. This definition emphasises the level of achievement of specific skills in the education system based on organising the curriculum and focusing on promoting students' learning based on teaching and evaluation. In other words, the Outcome-Based theory takes learners as the centre and pays full attention to their learning effectiveness and achievements. In the process of implementation, the first task is to clarify the learning outcomes in order to build conditions in which students will have the opportunity to develop.

The achievement of educational objectives of universities, departments and professions begins with the establishment of the core capacity and capacity index of OBE to develop the curriculum and evaluate students' learning outcomes. A clear educational objective based on the core capacity and capacity index will support the development, adjustment and evaluation of the curriculum. The educational objective refers to the career development and professional level that learners should achieve within 3 to 5 years at the end of their studies, which should be combined with the country, profession, educational development, university orientation, students' current ability, and the expectation of their parents and the university (Altan, 2020). Researchers propose building educational objectives based on the OBE principle by Spady (1994), including student-centred, shaping characteristics, a clear focus and high expectations (Metz et al., 2020). The core capacity of universities' educational objective is the professional ability of students, namely, the core development of future society and professions, the ability to compete, and specific knowledge and skills (Hadiyanto et al., 2021). It is also the EC2000 double-loop mode and consistent with the results of the quality assurance evaluation mode of Rogers (Besterfield-Sacre, 2000; Mak et al., 2003). The capacity index refers to the ability of students to transform the evaluation index specifically and measurably in order to evaluate the learning effect on learners after studying.The traditional curriculum design is focused on knowledge structure and content (Spady, 1994; Morcke et al., 2013; Rao, 2020) and is, hence, rarely student-centred (Asim et al., 2021; Birney & McNamara, 2021; Richards, 2013; Spady, 1994). The learning content of this kind of curriculum is expected to fall short of meeting students' actual needs. Besides, the weight of the workload is different, and the students' thoughts and needs are virtually ignored (Zhang et al., 2021). Hence, it is critical to develop educational objectives that can achieve a specific and measurable core capacity (Gurukkal, 2018; Hsia & Huang, 2011; Jadhav et al., 2020; Xing et al., 2022) in order to cultivate students and ensure that they master their core capacity based on a rich and diverse curriculum, an evaluation of their ability and skills, and continuous feedback (Sallow et al., 2019). As a result of the outcome, the university could establish, evaluate and improve its core capacity.

Researchers have defined a university curriculum as an "academic plan", formed within the curriculum system and further emphasising the university's academic requirements (Lim, 2022; Stark & Lattuca, 1997). Research in relation to the developmental theory and curriculum method began in European and American universities in the 1970s with a relatively complete scientific system, but developing the curriculum was difficult due to the design of the teaching and learning content (Stark & Lattuca, 1997; Orgill, 2009). It would have been easier if the developers had adhered to the principle of the OBE theory in promoting a student-centred concept (Geng, 2020). Curriculum development shoulders the future needs of society, not only intangible needs, but also the cognition of individual learners (Sharma, 2021; Yaşar, 2021). The inevitable trend of implementing OBE and teaching reform is for higher education students to meet the needs of society after graduation. By constructing a scientific and reasonable target system, higher education can change the importance attached to the cultivation of students' abilities, and create a new paradigm of curriculum development and teaching practice (Li & Zheng, 2022).Universities should adopt a student-centred mindset to establish and develop principles, educational objectives, core capacity and a capacity index (Spady, 1982, 1994), a clear focus (Wurdinger & Allison, 2017), high expectations, develop the professional characteristics of the times (Redding et al., 2017; Wang, 2019) in an appropriate quantity and different majors (Wang et al., 2016), master the goal level, vertical coherence, horizontal integration, democratic deliberation, and consensus building (Ai et al., 2019; Delis et al., 2019). The educational objectives of the IPEM in Chinese universities will be established in this research, as well as the core capacity and capacity index from the dimensions of teachers' ethical practice, learning to educate and learning to develop (Wang et al., 2016) by referring to the certification standards for teacher training majors in ordinary universities (Liu, 2020; Wang, 2021).

3. Methodology

3.1 Research Method

The purpose of this research is to establish a core capacity and capacity index of the IPEM in Chinese universities. The mixed research method is used to respond to the research problem. The research is conducted in two stages. In the first stage. the Modified Delphi Method (MDM) (Chiou & Tsai, 1996; Landeta, 2006) is utilised to establish the core capacity and capacity index system of the IPEM in Chinese universities according to experts' opinions. In the second stage, AHP is used to construct the evaluation factors of each expert at different levels before making a measurement matrix for comparison. YAAHP is used to calculate the individual weight of the evaluation factors of the AHP experts and the weight and order of each level to facilitate the development of the core capacity of the IPEM in China's universities and establish a capacity index system.

3.2 Modified Delphi Method (MDM)

Delphi is a technique used by groups of decision-makers, which entails the completion of individual questionnaires. The consensus opinion is then integrated in order to predict scientific behaviour (Chiou & Tsai 1996; Landeta, 2006). Murry and Hammons (1995) proposed the MDM, in which the complex questionnaire survey process was replaced by a literary discussion. This method is often used to construct educational objectives, build a curriculum and make an effective evaluation (Shen et al., 2019). Following the literature in relation to the IPEM, the core capacity and capacity index were firstly organised, and then the MDM was used to select the key indicators from the group of ideological and political education major experts. The core capacity and capacity index were revised according to the experts' suggestions, and a consensus was finally reached. A 5-point Likert Scale was used (1 to 5 implies very inappropriate to very appropriate) as the standard of measurement of the experts' opinions in order to calculate the average.

Quartile Deviation (*QD*) is generally used to measure stability in the Delphi method. The smaller the Quartile Deviation is, the more concentrated the experts' suggestions are. If it is equal or less than 0.60, the experts' opinions can be considered to be consistent. If the Quartile Deviation is between 0.60 and 1.00, it indicates moderate consistency, but if it is greater than 1.00, the experts have not reached a consensus (Faherty, 1979). The Coefficients of Variation (*CV*), which can standardise the units and solve the problem of different data units and the inability to compare them with each other, is used to determine if the experts have reached a consensus. The smaller the *CV* value is, the higher will be the degree of the experts' consensus. If the Quartile Deviation is $0 < CV \leq 0.5$, it represents a high consensus, and $0.5 < CV \leq 0.8$ represents a moderate consensus, while if $CV > 1$, there is a low degree of consensus (Dajani et al., 1979). The standard deviation (*SD*) is shown in the degree to which the experts' opinions are dispersed for each indicator. If the *SD* is greater than 1, it indicates that the experts have different opinions. The size of the *SD* generally changes, reflecting the Delphi method. If the experts participating in the research have the same scores, it indicates that they have reached a consensus, but reaching a consensus among all the experts is not easy. In this way, it can be determined if the opinions of the experts in this study are consistent or not (Al-Harbi, 2001).

3.3 Analytic Hierarchy Process (AHP)

The AHP proposed by Saaty (Bain et al., 1971) applies to the decision-making sequence, rational planning, resource utilisation, resource allocation and other aspects (Saaty, 1977). It entails combining qualitative and quantitative research to deal with multiple objective decision-making schemes with the aim of organising complex problems systematically in a hierarchal form to compare and sort them in pairs according to each facet level (Saaty, 1977, 1986). A hierarchical structure of the core capacity of the IPEM in Chinese universities is established in this research based on the steps of the AHP. The first layer is the ultimate goal, the second layer is the professional core capacity, and the third layer is the core capacity index to establish the overall hierarchical structure.

3.3.1 Construction of a Paired Comparison Matrix

After establishing the hierarchical structure, it is necessary to compare the elements in pairs. According to Saaty (1986), if there is an "n" element in the hierarchical level, it is important to compare n (n-1)/2 in pairs. The paired comparison is divided into nine evaluation scales. Equally important, slightly important, quite important, extremely important, and absolutely important are assigned to the measurement values of the nominal scales 1, 3, 5, 7, and 9, while the measurement values of the remaining 2, 4, 6, and 8 are between these five scales. In terms of the upper triangle of the paired comparison matrix *A*, there is a reciprocal relationship between the value of the lower triangle and the value of the relative position of the upper triangle, which becomes the form of the paired comparison matrix, as shown below.

$$A_{ij} = \begin{pmatrix} 1 & a_{12} & \dots & a_{1j} \\ \frac{1}{a_{12}} & \frac{1}{a_{2j}} & \dots & a_{2j} \\ \cdot & \cdot & \cdot\cdot & \cdot \\ \frac{1}{a_{1j}} & \frac{1}{a_{2j}} & \dots & 1 \end{pmatrix} \quad (1)$$

Note: *A* is the name of the matrix, i = row, j = column.

3.3.2 Calculation of the Priority Vector and Maximum Eigenvalue

After establishing the paired comparison matrix, the Eigenvalue and Priority Vector are calculated by the weight of the elements at each level. The Eigenvector and its eigenvalue are calculated after establishing the paired matrix, and then the relative weight value of each element can be obtained. When the comparison matrix *A* has been established, the weight of the elements at each level (also called the eigenvector) can be calculated. In this study, the eigenvector was calculated in a standardised way based on the average of the row of vectors. The calculation process is described as follows;

$$w_{ij} = \frac{1}{n}\sum_{j=1}^{n} \frac{a_{ij}}{\Sigma_{j=1}^{n} a_{ij}} \dots i, j = 1,2,..n \quad (2)$$

The following formula can be generated from the formula above;

$$\lambda = \frac{\Sigma_{i=1}^{n}\left(\Sigma_{j=1}^{n} w_j a_{ij}\right)/w_j}{\mathrm{n}} \dots i, j = 1,2, \dots n \quad (3)$$

Note: λ = Eigenvalue

3.3.3 Calculation of the Consistency Value and Consistency Ratio

The consistency value is generally measured and compared by the C. I. value and C. R. value. The C. I. values are obtained by the eigenvector method. The sum of "n", and the difference between them can be used as a benchmark to measure the C. I. level. The formula is as follows;

$$C.I. = \frac{\lambda - \mathrm{n}}{\mathrm{n}-1} \quad (4)$$

The ratio of the C.I. value and R.I. value in the matrix of the same level number is the C. R. value. The formula is as follows;

$$C.R. = \frac{C.I.}{R.I.} \quad (5)$$

In the formula, λ is the Eigenvalue, and "n" is the number of samples. When C. I. = 0, it means that the appraiser' s judgments are completely consistent. C.I. > 0 means that the contradiction deviation of the previous and subsequent judgment is inconsistent. C. I. ≤ 0.1 indicates that it may not be completely consistent, but it is an acceptable error value. R. I. is called the random index, and its value will be different under different levels, as shown in Table 1.

Table 1. Calculation of the Random Indices of the AHP

Level	1	2	3	4	5	6	7	8	9	10	11	12
R.I.	0.00	0.00	0.58	0.9	1.12	1.24	1.32	1.41	1.45	1.49	1.51	1.48

Note: Random Indices Calculated Adapted from "A Scaling Method for Priorities in Hierarchical Structures", by T. L. Saaty, 1977, *Journal of Mathematical Psychology, 15*(3), p. 234 (https://doi.org/10.1016/0022-2496(77)90033-5). Copyright 1977 by the Journal of Mathematical Psychology Association.

3.4 Research Participants

Delbecq et al. (1975) suggested limiting the number of experts at 15-30 if they are highly homogenous and 5-10 if they are highly heterogeneous. On this basis, the MDM was used to collect the experts' suggestions and establish the core capacity and capacity index in the first stage of this study. 15 of the tested and modified Delphi group of experts

were subjected to a survey based on a two-time questionnaire. In the second stage of the study, the AHP was used to explore the hierarchical structure of the core capacity of the IPEM in Chinese universities, as well as the weight and relative importance of the competence indicators. 15 experts were selected as the participants.Each of the MDM and AHP interviewees in this study have more than 5 years of relevant work experience, and the experts are from different professions and management organisations. The experts were different in each stage.

4. Results

4.1 Results of the Expert Questionnaire in relation to the DMD for the IPEM

Table 2. Core Capacity and Capacity Index of the Ipem in Chinese Universities

Core capacity	Capacity index
A. Ability to practice teacher ethics (APTE)	A1. Ideal and faith: Learners' ideal and faith are rooted in the grassroots and they are determined to contribute to education.
	A2. Building morality and cultivating people: Learners master the methods of building morality and cultivating people.
	A3. Teaching according to law: Learners are aware of teaching according to law, and safeguard the legitimate rights and interests of their students and themselves.
	A4. Willing to teach: Learners have family and country feelings and love education.
	A5. Professional attitude: Learners have the spirit of love and dedication, and wish to guide students.
B. Ability to teach in practice (ATP)	B1. Professional knowledge: Learners have mastered the basic principles, knowledge, methods and other contents of the ideological and political education discipline.
	B2. Professional ability: Learners are able to solve practical problems with discipline and professional knowledge.
	B3. Teaching design: Learners are able to design their teaching according to the discipline theory and curriculum standards.
	B4. Teaching practice: Learners have solid basic teaching skills and the ability to use a variety of teaching methods to implement teaching.
	B5. Teaching evaluation: Learners have mastered various teaching evaluation methods, and have the ability to improve based on the results.
C. Ability to educate comprehensively (AEC)	C1. Moral education consciousness: Learners prioritise moral education and are people-orientated.
	C2. Class management: Learners have mastered the basic content, characteristics and methods of a class teacher's work.
	C3. Student evaluation: Learners have mastered the method of students' multiple evaluation, and guide students to grow up healthily.
	C4. Curriculum education: Learners have mastered the methods and strategies of curriculum education, and understand the educational value of the discipline.
	C5. Practice education: Learners have mastered the ways and methods of education in practice activities.
D. Ability to self-develop (ASD)	D1. Professional reflection: Learners are conscious of reflecting on ideological and political education teaching.
	D2. Practical reflection: Learners have the ability to think critically and independently.
	D3. Self-reflection: Learners have the ability to find problems and solve them through reflection.
	D4. Collaborative learning: Learners understand the value and role of a learning community in teaching activities.
	D5. Communication skills: Learners have the ability to communicate and cooperate in the teaching process.

Note: Table constructed for this research.

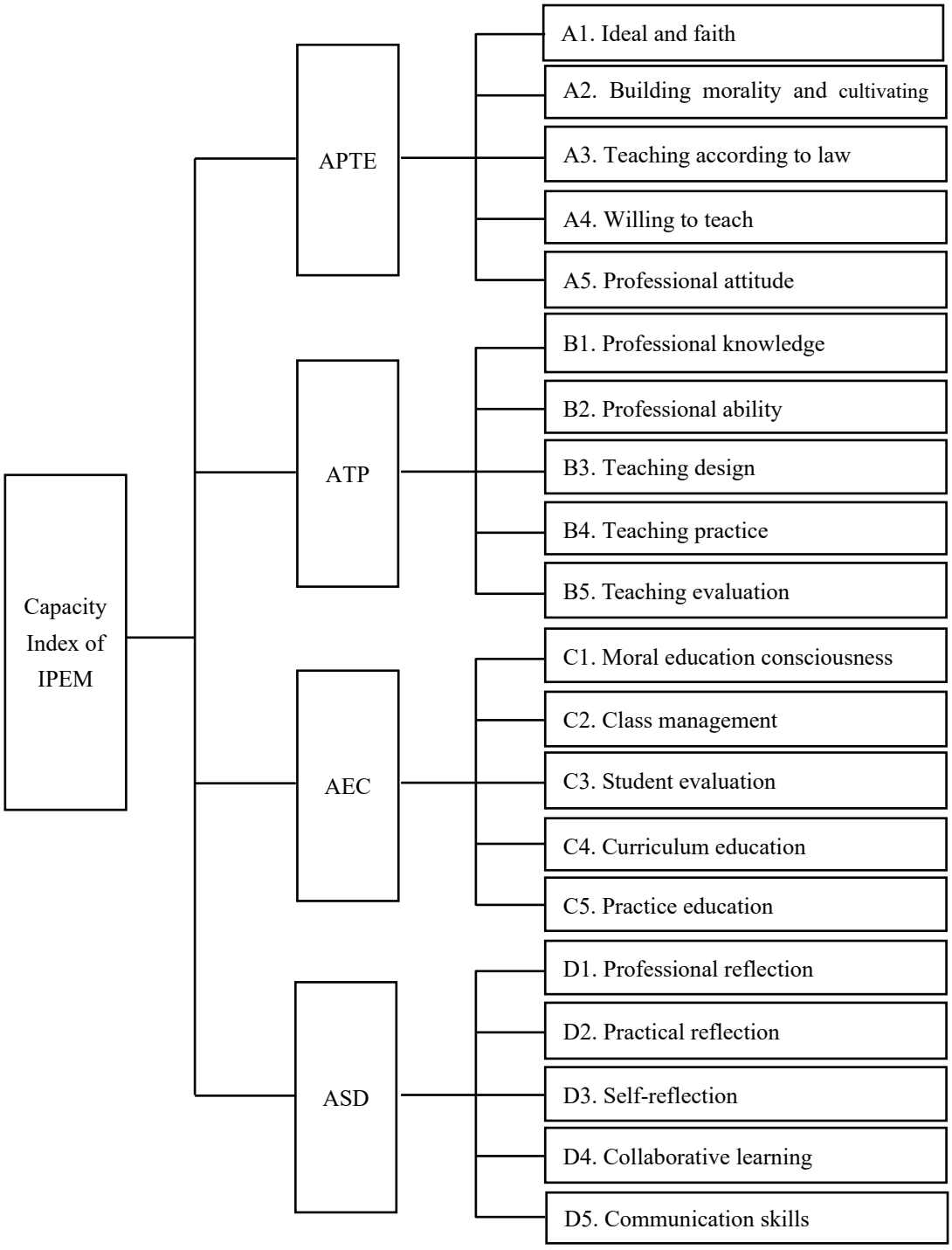

Figure 1. Capacity Index of IPEM

It was determined from the analysis and collation of the literature that the IPEM in Chinese universities contains four capability dimensions, namely, the ability to practice teacher ethics, teaching practice ability, comprehensive education ability, and the ability to self-develop, with a total of 20 capability indicators. The first Delphi expert questionnaire was sent by e-mail on the 25th October, 2022 and collected on the 2nd November, 2022. A total of 15 questionnaires were issued, and 15 were collected, representing a recovery rate of 100%, The questionnaire included the experts' judgment of the appropriateness of the core capacity and core capacity index. They were required to judge the statements in the questionnaire based on a 5-point Likert scale according to their importance (1= very poor;

5 = very appropriate). In the first Delphi experts' opinion, there was no suggestion to add or amend the four core capacity levels, but they did suggest amending the capacity index level. After making this amendment, the questionnaire was sent on the 7th November, 2022, and the collection was completed on the 14th November, 2022, when 15 questionnaires were collected, with a recovery rate of 100%. The second time, the Delphi experts all agreed, and there were no suggestions to add, delete or modify. The suitability scores of all the levels and indicators were greater than 4, indicating that they were quite appropriate; therefore, they were used as the basis of the AHP questionnaire.

According to the results of this study, a comprehensive comparison of the capacity index system of the IPEM in Chinese universities constructed by 2 expert groups indicated that, in the aspect of the core capacity, $M \geq 4.93$, $SD \leq 0.258$, $QD=0.000$, $CV \leq 0.052$. In the aspect of the ability to practice teacher ethics, $M=5$, $SD=0.000$, $QD=0.000$, $CV=0.000$. In terms of teaching practice ability, $M=5$, $SD=0.000$, $QD=0.000$, $CV=0.000$. In terms of comprehensive education ability, $M=4.93$, $SD=0.258$, $QD=0.000$, $CV=0.052$, and in terms of the ability to self- develop, $M=4.93$, $SD=0.258$, $QD=0.000$, $CV=0.052$.

Based on the above research results, the core capacity and capacity index of the IPEM in Chinese universities are highly relevant and consistent. It can be concluded that these four core capacity indices cover a wide range of areas and are all necessary basic criteria for being an ideological and political educator. Therefore, the expert panel members had a high degree of recognition and consistency on the indicator level, as shown in Table 2.

4.2 Results of the AHP Questionnaire in relation to the Capacity Index of IPEM

The structure of the Capacity Index of IPEM based on the results of two-time Delphi expert validity questionnaire is shown in Figure 1.

This AHP questionnaire was distributed to experts who have been engaged in IPEM and related management for more than 5 years. 15 questionnaires were sent out from the 15th to the 20th November, 2022, and 15 were collected, with a recovery rate of 100%. The C. I. values were all less than 0.1, which indicated good consistency and the questionnaire was valid.According to the principle of AHP, if the consistency indicator C.I.= 0, it means that the pre- and post- judgment are completely consistent. If C.I.> 0.1, it means that the pre- and post- judgment are contradictory, deviating or incoherent. If C.I. ≤ 0.1, it means that the pre- and post- judgments are inconsistent, but within the allowable range. According to the analytical results of the YAAHP, the C.I. values of the questionnaire by the experts were all ≤ 0.1, so the opinions were consistent on all four levels, as shown in Table 3.

Table 3. Results of AHP on the Capacity Index System of Ipem IPEM

Capacity level	Relative weight	λmax	C.I.	R.I.	C.R.	Importance ranking
A. APTE	.212	4.001	0.000	0.890	0.002	3
B. ATP	.379					1
C. AEC	.238					2
D. ASD	.171					4

Note: This table was constructed for this research. C. I. ⩽ 0.1.

The survey results of the relevant weights at the core capacity level showed that the ATP level (0.379) had the highest relative weight, and was considered to be the most important core capacity level of the IPEM in Chinese universities, followed by the AEC (0.238), the APTE (0.212), and the ASD (0.171). Finally, it can be seen that experts believed that the ATP and the AEC were two more important core competencies. After ranking the APTE and the ASD, the result of prioritising the ATP was the same as that of Frost and Durrant (2003), who found that teaching ability was important, emphasised teachers' mastery of teaching autonomy, the improvement and refinement of teaching ability and other issues (Hargreaves & Moore, 2000). The core capacity of the IPEM in Chinese universities has been developed through expert advice, which includes the ability to practice teachers' ethics, teaching practice, comprehensive education and self-development, which are consistent with the professional certification standards (Liu, 2020; Wang, 2022; Wang & Zhang, 2016).

In this study, the core capacity index of the IPEM was subdivided at all levels, and the important ranking and relative weight were calculated respectively. The results are as follows;

4.2.1 Ability to Practice Teacher Ethics(APTE)

According to the analytical results of the YAAHP, the C. I. value of each indicator of the capacity level of the IPEM on the APTE was .009, the λmax was 5.036, and the C. R. value was .008, meeting the requirement of consistency. The overall relative weight and order were A1 (0.326) > A2 (0.258) > A3 (0.147) > A4 (0.142) > A5 (0.127), as shown in Table 4. In terms of the evaluation of the relative importance of the constructed capacity index by the experts, the results of the relative weight between the indicators showed that ideal and faith (0.326) had the highest relative weight, and professional attitude had the lowest. This shows that the experts believed that ideal and faith are the most important components of practicing teachers' ethics.

Table 4. Results of AHP for APTE of the Capacity Index in IPME

Capacity level	Relative weight	λmax	C.I.	R.I.	C.R.	Importance ranking
A1	0.326	5.036	0.009	1.120	0.008	1
A2	0.258					2
A3	0.147					3
A4	0.142					4
A5	0.127					5

Note: This table was constructed for this research. C. I. ⩽0 .1.

4.2.2 Ability to Teach in Practice (ATP)

According to the analytical results of the YAAHP, the C.I. value of each indicator of the capacity level of the IPEM to the ATP was 0.003, the λmax was 5.014, and the C.R. value was 003, meeting the requirement of consistency. The overall relative weight and order were B2 (0.286) > B1 (0.274) > B4 (0.244) > B5 (0.111) > B3 (0.085), as shown in Table 5. At the level of educational practice ability, professional ability (0.274) had the highest weight, while teaching design (0.085) had the lowest. Therefore, the experts believed that professional ability is the core of teaching practice, and is more important than other elements (Frost & Durrant, 2003).

Table 5. Results of AHP for ATP of the Capacity Index in IPEM

Capacity level	Relative weight	λmax	C.I.	R.I.	C.R.	Importance ranking
B1	0.274	5.014	0.003	1.120	0.003	2
B2	0.286					1
B3	0.085					5
B4	0.244					3
B5	0.111					4

Note: This table was constructed for this research. C.I. ⩽ .1.

4.2.3 Ability to Educate Comprehensively (AEC)

Table 6. Results of AHP for AEC of the Capacity Index in IPEM

Capacity level	Relative weight	λmax	C.I.	R.I.	C.R.	Importance ranking
C1	0.175	5.003	0.001	1.120	0.001	2
C2	0.088					4
C3	0.087					5
C4	0.480					1
C5	0.169					3

Note: This table was constructed for this research. C.I. ⩽ 0.1.

According to the analytical results of the YAAHP, the C. I. value of each indicator of the capacity level of the IPEM to the AEC was .001, the λmax is 5.003， and the C. R. value was .001, meeting the requirement of consistency. The overall relative weight and order were C4 (0.480) > C1(0.175) > C5 (0.169) > C2 (0.088) > C3 (0.087), as shown in Table 6. At the level of comprehensive education ability, curriculum education (0.480) had the highest weight, which is consistent with the research results of Ai et al. (2019) that ideological and political education highlights the ideological nature of the curriculum.

4.2.4 Ability to Self Develop (ASD)

According to the analytical results of the YAAHP, the C. I. value of each indicator of the capacity level of the IPEM to the ASD was. 005, the λmax was 5.020，and the C.R. value was .004, meeting the requirement of consistency. The overall relative weight and order were D5 (0.330) > D4 (0.202) > D3 (0.191) > D2 (0.185) > D1 (0.092), as shown in Table 7. At the level of self-development ability, communication skills (0.330) had the highest relative weight, while professional reflection had the lowest. Therefore, the experts believed that, as ideological and political educators, communication skills occupy an important position in the professional ability indicators, which is similar to the research by Tao and Lv (2022).

Table 7. Results of AHP for ASD of the Capacity Index in IPEM

Capacity level	Relative weight	λmax	C.I.	R.I.	C.R.	Importance ranking
D1	0.092	5.020	0.005	1.120	0.004	5
D2	0.185					4
D3	0.191					3
D4	0.202					2
D5	0.330					1

Note: This table was constructed for this research. C. I. ⩽ 0 .1.

Ttable 8. Results of Relative and Overall Weight Under the Capacity Index for the IPME in Chinese Universities

Core capacity	Capacity index	Relative weight	Ranking in dimension	Overall weight	Overall ranking
A	A1	0.325	1	0.052	6
	A2	0.258	2	0.041	10
	A3	0.148	3	0.023	15
	A4	0.142	4	0.022	16
	A5	0.127	5	0.020	19
B	B1	0.274	2	0.112	3
	B2	0.286	1	0.117	2
	B3	0.085	5	0.031	14
	B4	0.244	3	0.105	4
	B5	0.111	4	0.049	7
C	C1	0.175	2	0.043	8
	C2	0.088	4	0.021	17
	C3	0.087	4	0.021	17
	C4	0.480	1	0.124	1
	C5	0.169	3	0.042	9
D	D1	0.092	5	0.016	20
	D2	0.185	4	0.032	13
	D3	0.191	3	0.033	12
	D4	0.202	2	0.034	11
	D5	0.330	1	0.061	5

Note: This table was constricted for this research.

4.3 Results of the Relative and Overall Weight of the Capacity Index for IPEM in Chinese Universities

Based on the views of the AHP experts, and the comparison between the relative weight under the level of the capacity index of the IPEM in Chinese universities and the overall weight, the overall relative weight and order were: C4 (0.124) > B2 (0.117) > B1 (0.112) > B4 (0.105) > D5 (0.061) > A1 (0.052) > B5 (0.049) > C1 (0.043) > C5 (0.042) > A2 (0.041) > D4 (0.034) > D3 (0.033) > D2 (0.032) > B3 (0.031) > A3 (0.024) > A4 (0.022) > C2 (0.021) > C3 (0.021) > A5 (0.020) > D1 (0.016), as shown in Table 8.

5. Discussion

The purpose of this research was to establish the core capacity and capacity index of the IPEM in Chinese universities based on the OBE theory and learner orientation (Besterfield Sacre et al., 2000; Mak et al., 2003) that learners can retain their core capacity after they graduate (Altan, 2020). The research results showed that four core competencies of the core capacity of the IPEM in Chinese universities are important, namely, the ability to practice teacher ethics, the ability to practice teaching, the ability to comprehensively educate people, and the ability of self-development. In terms of the ability to practice teacher ethics, it was shown that ideological and political educationalists are professional, with a high level of moral responsibility. They not only have a high level of morality, but are also moral people who abide by their professional integrity. The ability to practice teachers' ethics plays a crucial role, which is consistent with previous research results (Forster, 2012; Mavis Sevim, 2021; Karatas & Yilmaz, 2021). In terms of teaching practice ability, this was ranked as the most important by the AHP, who indicated that the teaching practice ability of ideological and political educators plays an important role in career development. This means that students in the IPEM should have the professional knowledge and ability to design, practice and evaluate teaching, which was also found in the research of Fang (2019), Gogoulou and Grigoriadou (2022) and Mavis Sevim (2021). As for comprehensive education ability, the result was consistent with that of ideological and political education speciality in line with developing the times and social needs, analysing people's actual confusion in life, using scientific theoretical knowledge to effectively eliminate ideological confusion and obstacles, and promoting effective development and construction (Ai et al., 2019; Ocampo, 2021). In terms of the ability of self-development, from the perspective of profession and talent needs, students in the IPEM should have the ability of self-development. This is consistent with the hope of the state and society that students have a certain sense of reflection, critical thinking, team spirit, etc. (Christof, 2014; Saregar, 2021).

By developing their core capacity, college students would be trained to scientifically and accurately judge and grasp the trend of economic and social development based on mastering theories in order to enhance the effectiveness of the IPEM in contemporary social development and highlight the value of its major in this respect. The core capacity of professional development is clarified by the theory of OBE, which is a good foundation for professional development, responds to the rapid development of the Internet era, highlights the time and space constraints of ideological and political education, and brings new opportunities and challenges. As for core capacity indicators, 20 were developed for the IPEM, including five that are important for the ability to practice teacher's ethics, namely, ideal and belief, morality, teaching according to the law, willingness to teach, and professional attitude. These indicators aim to help college students to organise their professional ideals, master the methods and ways of moral education, be aware of teaching according to law, be willing to engage in education (Schwimmer & Maxwell, 2017), establish a correct professional attitude (Dodd & Hooley, 2018), and reflect their ideology (Ai et al., 2019), all of which is consistent with the previous research (Ai et al., 2019; Forster, 2012; Dodd & Hooley, 2018; Mavis Sevim, 2021; Karatas & Yilmaz, 2021; Schwimmer & Maxwell, 2017).

At the level of teaching practice ability, it was found that professional knowledge, professional ability, teaching design, teaching practice, and teaching evaluation were all important, which is similar to previous studies that students in the IPEM should have a solid grasp of professional knowledge, be able to use disciplinary knowledge to solve problems, develop the curriculum design according to the discipline theory, undertake teaching practice, conduct multiple evaluations (Gogoulou & Grigoriadou, 2022), and develop a curriculum that contains reasonable scientific content and a teaching plan that corresponds with the actual situation of college students (Fang, 2019; Mavis Sevim, 2021; Karatas & Yilmaz, 2021). In terms of comprehensive education ability, the experts pointed out that students in the IPEM should have the ability to educate people through courses, activities, and processes (Ai et al., 2019; Liu, 2020; Forster, 2012). At the level of comprehensive education ability, five important ability indicators were developed in this study, namely, moral awareness, class management, student evaluation, curriculum education, and practice education. The results of changing traditional education methods and updating education concepts were consistent (Ai et al., 2019; Liu, 2020; Ocampo, 2021). Five important ability indicators were also developed at the

level of self-development ability, namely, career development, practical reflection, self-reflection, joint learning, and communication skills. These are similar to those expected of ideological and political educators by society, namely, to master the basic methods of disciplinary research and educational science research, have the ability to find and analyse problems, and understand the role of a community of common learning (Christof, 2014; Fabriz et al., 2021; Karatas & Yilmaz, 2021; Saregar, 2021).

6. Conclusion

6.1 Conclusion

The MDM was used in this research to develop the core capacity and capacity index of the IPEM in Chinese universities based on the OBE theory, which is the four core capacity dimensions of the ability to practice teacher ethics, teaching practice, comprehensive education, and self-development, which are related to 20 capacity indicators, such as ideal and belief, moral cultivation, and legal guidance.

YAAHP was used to analyse the results. The order of the four core capacity dimensions was teaching practice ability, comprehensive education ability, ability to practice teacher ethics and self-development ability. The first five of the 20 capacity indicators were course education, professional ability, professional knowledge, teaching practice and communication skills. It can be seen that the practical teaching ability of the IPEM is particularly important.

6.2 Implications

This research was located in China and consisted of an in-depth analysis of the current situation of the IPEM in China based on the OBE (Spady, 1982, 1994) and related theories. It was aimed to renew the process of inheritance and reference, draw on the experience of the development of a global result-orientated curriculum, adjust according to students' different needs, and ensure curriculum integration to achieve the goal of qualified teaching (King & Evans, 1991). The core capacity and capacity index of the IPEM specialty was established, the training direction of the IPEM speciality was further clarified, and a talent training system was formed (Spady, 1982, 1994) based on theoretical learning and centred on teaching practice with the aim of improving teaching ability. The OBE theory was applied to deepen the understanding of its professional courses and broaden the scope of ideological and political education teaching and curriculum development research.

This study was based on the current core capacity and capacity indices of the IPEM (Altan, 2020; Fe et al., 2017), integrated with the OBE theory (Spady,1982:1994), and the opening up of a new perspective for professional curriculum research. In accordance with the unique educational essence and the core capacity of the IPEM speciality (Wang, 2020; Xing et al., 2022), some principles and strategies were proposed for the development of the curriculum to constantly deepen the development of the IPEM, provide a reference for the formation of a scientific and reasonable training programme conducive to promoting the improvement of the quality of the IPEM, and ultimately meet the public' s expectations for specialised talents in the educational field.

6.3 Limitations and Recommendations

It is inevitable that all research has some limitations and this one is no exception. The main limitation of this study was that the research participants only consisted of 15 experts with ideological and political education. Since people with different identities may have different preferences, the analysis results would be slightly different. Therefore, the number of participants should be increased in future research and the interviewees could include graduates to increase the diversity of the sample.

The research tools were another limitation because the MDM and AHP, which were the only tools used, are both more vulnerable to the subjective consciousness of the participants, which may have affected the authenticity of the research results. This is because the way to answer the questions in the AHP questionnaire is complex and this was the first time many of the participants had encountered it; hence, they were not clear about the method of completing the questionnaire, resulting in inconsistent results and logic, which required them to submit their answers again. The longer the time it takes, the more problematic it is for the interviewees. In this context, it is suggested that future researchers use other research methods and decision-making analysis tools to strengthen the results of this study or make comparisons.

A third limitation was the research scope because it was only designed to build the core capacity and capacity index of the IPEM speciality, whereas the curriculum development also includes curriculum construction, curriculum adjustment, curriculum evaluation and other links. Therefore, future researchers should build a curriculum map, establish evaluation indicators and other research for the IPEM speciality curriculum adjustment to form a closed

loop.

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