

# Diversified Practical Teaching Models for Decorative Materials and Craftsmanship Courses under the School Enterprise Cooperation Model

Tiantian Yu\*, Xiaodan Kong

College of Chemistry and Environment, Wenzhou Polytechnic, Wenzhou, Zhejiang, China  
1227452555@qq.com

\*Corresponding author

**Abstract:** With the development of the economy and society, the decoration industry is also constantly advancing, and the position of decoration materials and craftsmanship courses in design education is becoming increasingly important. Practical teaching is an indispensable and important part of decoration materials and craftsmanship courses. Due to the varying degrees of deficiencies in the learning ability, hands-on ability, and thinking ability of vocational college students, this article focuses on "student-centered" talent cultivation mode and explores diversified practical teaching models. This article combines the course of Decorative Materials and Crafts to conduct research on the practical teaching content, form, method, process, and other aspects of the course, and designs a diversified practical teaching mode. The research results indicate that the diversified practical teaching mode designed in this article can improve student participation, knowledge mastery, and satisfaction, with a maximum student participation rate of 97%.

**Keywords:** Diversified Practical Teaching, School Enterprise Cooperation, Decorative Materials, Craftsmanship Courses

## 1. Introduction

With the continuous development of society, higher education needs to cultivate more outstanding talents to meet market demand. Practical teaching can combine theory with practice, improve students' practical abilities, and help them adapt to society more quickly after entering society [1]. In the field of decorative materials and craftsmanship, students enter the workforce after graduation, but there is a huge contrast between theoretical knowledge and practical work. In the traditional teaching mode, students still stay at the knowledge level in the field of decorative materials and craftsmanship, and the proportion of practice in learning is unreasonable, which is not conducive to their integration into social adaptation work after graduation [2-3].

In order to improve the practical teaching mode and achieve diversification, this article designs the teaching content, form, method, and process of the decorative materials and technology course under the school enterprise cooperation mode, and compares it with the existing practical teaching mode. This can enable comparative analysis, evaluate the advantages and disadvantages of the teaching mode designed in this article through data analysis, and propose corresponding improvement measures.

## 2. Related Work

In recent years, the education sector has attached increasing importance to teaching models that combine theoretical knowledge with practical experience, especially in courses on decorative materials and craftsmanship. Rafikovna I Z's research indicates that integrating students' creative and folk craft skills into technical courses can significantly enhance their creativity and practical abilities [4]. Shomirzayev M K focused on the study of the organization and implementation characteristics of practical courses in national craft courses. His research has found that through practical operations, students can gain a deeper understanding of materials and processes, thereby improving innovation [5]. Feng W's research explores the innovative application of combining art and design with engineering practice education in the context of new media. The study found that the application of new media can improve teaching effectiveness and student participation [6].

Although the above research provides ideas for diversified practical teaching under the school enterprise cooperation model, these studies do not fully consider the adaptability of individual student differences and industry-specific needs. Therefore, in order to fill this research gap, this article explores and designs a more diverse practical teaching mode by in-depth analyzing the application of the stingy cooperation mode in the decoration materials and craftsmanship course.

### 3. Diversification of Decorative Materials and Crafts Courses under the School Enterprise Cooperation Model

#### 3.1 Characteristics of Decorative Materials and Crafts Course

Decorative Materials and Crafts is a highly practical and operational discipline, and its teaching content mainly revolves around decorative materials. Therefore, the teaching purpose is to enable students to apply decorative materials to practice on the basis of mastering their types, characteristics, and development trends [7]. Decorative materials and processes aim to cultivate students' in-depth understanding and application abilities of various decorative materials and processes, with core characteristics including material knowledge, design and application, process technology, innovation and sustainability. Due to poor learning foundation and limited knowledge reserves, students encounter significant difficulties in learning this course and are unable to effectively apply the knowledge they have learned to practical situations.

#### 3.2 School Enterprise Cooperation Model

In practical teaching activities under the school enterprise cooperation model, teachers can guide students to understand the types, characteristics, and development trends of decorative materials by consulting relevant materials. In practical teaching under the school enterprise cooperation model, students can improve their understanding and comprehension of decorative materials by participating in practical activities, understand the characteristics and applicability of different materials, master the classification methods of decorative materials, and master the processing technology and practical application of different decorative materials [8]. When students participate in practical teaching activities, they can strengthen their understanding of decorative materials through practical applications, thereby increasing their understanding of different decorative materials. It includes that when learning soft pack materials, students can increase their understanding of soft pack materials through practical applications. When learning materials such as glass and ceramics, students can understand the characteristics and applicability of these materials through practical applications [9].

#### 3.3 Practical Teaching Mode

The traditional practical teaching mode includes project-based learning, case study method, simulation training, and internship/work experience. Table 1 shows the characteristics and implementation methods of different teaching modes, and includes whether they can be selected as experimental comparison subjects in this article [10].

Table 1: Practical teaching mode

Teaching mode	Features	Implementation	Test subject
Project-based learning	Solve practical problems and collaborate across disciplines	Students work in groups to complete designated projects	Yes
Case study method	Analytical and decision-making skills	Students analyze cases independently or in groups	Yes
Simulation training	Learn complex tasks safely	Training in a controlled environment	No
Internship/Work experience	Real environment, gain practical experience	Internship in a company or unit	Yes

From Table 1, it can be seen that project-based learning, case study method, and internship/work experience teaching models can all involve real-world problems, stimulate students' creativity and critical thinking, and cultivate problem-solving abilities. Due to the need for specialized equipment and software for simulation training, the teaching mode of simulation training cannot be used as the method for participating in the experiment in this article. This article can select project-based learning, case

study method, and internship/work experience as experimental subjects. It can be compared and analyzed with the diversified practical teaching models designed in this article, in order to evaluate the advantages and disadvantages of different practical teaching models, and propose corresponding improvement measures.

#### 4. Design of Diversified Practical Teaching Modes for Decorative Materials and Craftsmanship Courses under School Enterprise Cooperation

The diversified practical teaching mode designed in this article includes four parts: teaching content, teaching form, teaching methods, and teaching process. The framework involved is shown in Figure 1:

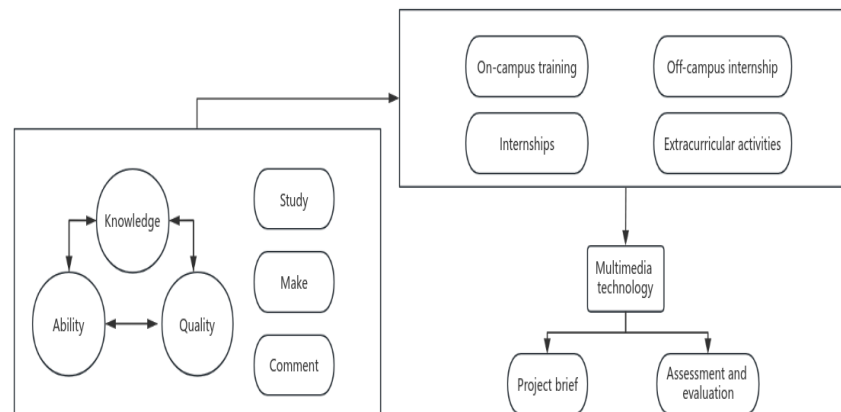


Figure 1: Design framework for practical teaching mode

##### 4.1 Teaching Content

In terms of practical teaching content, the starting point should be to cultivate students' innovative and practical abilities, guided by completing specific work tasks, and based on enterprise needs and student abilities, establish corresponding practical teaching systems. The diversified practical teaching mode designed in this article includes three aspects: building a scientific curriculum practice system, establishing curriculum objectives, and strengthening school enterprise cooperation.

To build a scientific curriculum practice system, specifically, it is necessary to revolve around the three-dimensional teaching goal of "knowledge, ability, and quality", and build a curriculum practice system that integrates "learning, doing, and evaluating". Among them, learning is the foundation, mainly to enable students to have a complete understanding and grasp of theoretical knowledge; Doing is the key, it enables students to carry out practical operations on the basis of theoretical foundations; Evaluation is about improving, allowing students to test their level of knowledge mastery through practical operations.

It should analyze the teaching objectives of the course and establish a talent cultivation goal of "service oriented and employment oriented"; Secondly, it is necessary to analyze the course teaching content and establish a student-centered teaching content system; Once again, it is necessary to analyze teaching methods and establish a teaching method system that is led by teachers and student-centered; Finally, it is necessary to analyze the course assessment methods and establish an assessment method that focuses on process assessment and results assessment as a supplement.

In the process of practical teaching, vocational colleges should fully utilize the school enterprise cooperation platform and strengthen the connection with enterprises. During this process, it is possible to strengthen the inspection of the enterprise's production workshops, project research and development, and other aspects. Vocational colleges should actively communicate and exchange with enterprises, introduce the talents needed for enterprise development into the classroom, and combine the needs of enterprises with the actual situation of the school. School enterprise cooperation provides students with more practical opportunities.

#### **4.2 Teaching Forms**

The practical teaching forms designed in this article include four forms: on campus training, off campus internships, on-the-job internships, and extracurricular activities.

On campus practical training courses are a teaching method that combines the learning of theoretical knowledge and practical operations for students during their school learning period. It can provide students with a better practical environment, improve their learning efficiency, and also improve the teaching level of teachers. On campus practical training courses generally focus on theoretical courses, and some schools also arrange practical training courses related to interior design [11].

Off campus internship courses refer to students conducting practical operations in decoration enterprises or related units under the guidance of professional teachers. The purpose is to cultivate students' abilities to discover, solve, analyze, and solve problems in practice, while also stimulating their professional interests and cultivating their professional qualities.

Top job internship refers to students who do not need to participate in any form of professional skills exams before graduation and directly go to decoration enterprises for top job work. It is generally achieved through various methods such as school recommendation, enterprise recruitment, and graduate recommendation.

Extracurricular activities refer to practical teaching activities conducted during extracurricular time using on campus training courses or off campus internships. Extracurricular activities can enhance students' interest in their major, improve their learning efficiency, and enhance communication and interaction with teachers and classmates. Extracurricular activities can help students understand social life, enrich their social life experience, and stimulate their enthusiasm for learning professional knowledge and skills.

#### **4.3 Teaching Methods**

In order to meet the demand of society for decorative design talents, it is necessary to actively introduce modern teaching methods to enhance students' practical abilities. In traditional decorative materials and craftsmanship courses, teaching objectives are mainly achieved through physical display, on-site observation, and other methods. This teaching model is relatively single, only allowing students to understand a specific material and process, and cannot demonstrate the overall integrity of the decorative materials and process course. Therefore, in practical teaching, it is necessary to fully utilize multimedia technology to enhance students' learning interest, and appropriately incorporate multimedia technology into teaching, presenting teaching content through animation, videos, and other forms [12].

##### **A Multi Subject Participation Assessment Model**

The assessment content of the Decorative Materials and Crafts course includes students' mastery of decorative materials and craftsmanship and their ability to adapt to their positions. In the process of practical teaching, the course assessment method should be able to comprehensively assess the learning ability and professional competence of students. The previous assessment method was usually a written test, which mainly tested the mastery of course knowledge points by students. However, this examination method is not conducive to the cultivation of students' professional ethics and professional ethics, and cannot provide comprehensive and systematic assessment for students. Therefore, in the process of practical teaching, multiple assessment modes should be adopted, including: firstly, enterprise designers should provide training, guidance, and evaluation to students before project implementation; Secondly, enterprise designers and students jointly develop practical project plans and provide guidance during the project implementation process; Thirdly, students should actively participate in corporate projects and conduct self-evaluation, peer evaluation, and defense after the project is completed. This assessment model can not only assess students' mastery of knowledge points, but also assess their professional qualities and ethics [13]. Through the application of this assessment model, students can be comprehensively assessed.

#### **4.4 Teaching Process**

In the teaching process, this article breaks down the practical teaching objectives and tasks based on the project task book provided by the enterprise designer, making each task challenging and stimulating students' interest in learning. It includes breaking down the course objectives and tasks into

understanding the types and characteristics of commonly used decorative materials, mastering the usage methods of commonly used decorative materials, understanding the processing technology of common decorative materials, understanding the relationship between commonly used decorative materials and home manufacturing technology, and understanding the relationship between commonly used decorative materials and interior decoration in practical teaching of decorative materials and craftsmanship. In practical teaching, using projects provided by enterprise designers as carriers, students can participate in them, so that they can have a deeper understanding of the theoretical knowledge of decorative materials and craftsmanship courses. In addition, students can also complete practical projects according to the design requirements based on the project task book provided by the enterprise designer.

The evaluation of the practical teaching process is the ultimate result of the entire practical teaching activity, mainly including two aspects: the teacher's skill assessment of students and the student's evaluation of their own abilities. The practical teaching process of the course of Decorative Materials and Crafts is a complete teaching activity. Before conducting practical teaching, it is necessary to conduct skill assessments on students to verify whether they have met the skill requirements required for actual work. In the process of practical teaching, regular evaluations are conducted on students to understand their ability level and professional knowledge and abilities demonstrated throughout the entire practice process.

## 5. Experiment of Practical Teaching Mode

### 5.1 Experimental Design

This article can randomly select 40 students from students with the same academic background, with 10 students in each group and roughly the same abilities. The experimental stage and related operations are shown in Figure 2:

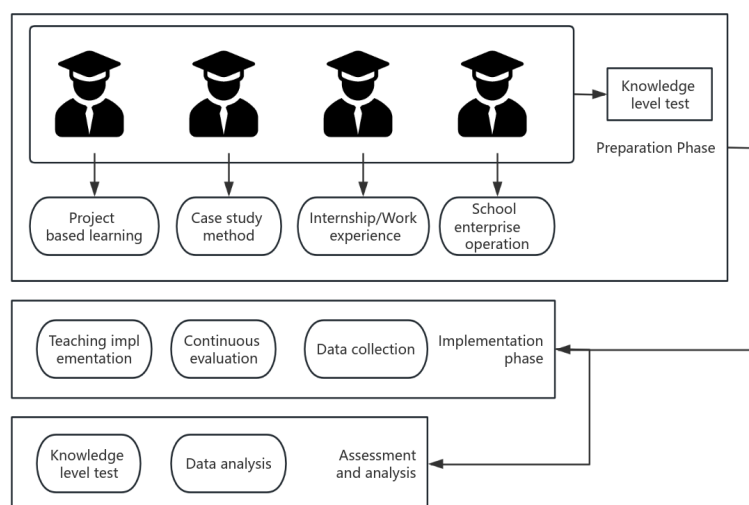


Figure 2: Experimental Process

This article randomly assigns students to four different teaching mode groups, teaching according to their respective teaching modes, and conducts knowledge level tests after teaching. Relevant data is collected through questionnaire surveys and observation records.

### 5.2 Student Engagement

By collecting relevant data on different students using different teaching modes for learning, the statistical data of student participation is shown in Figure 3.

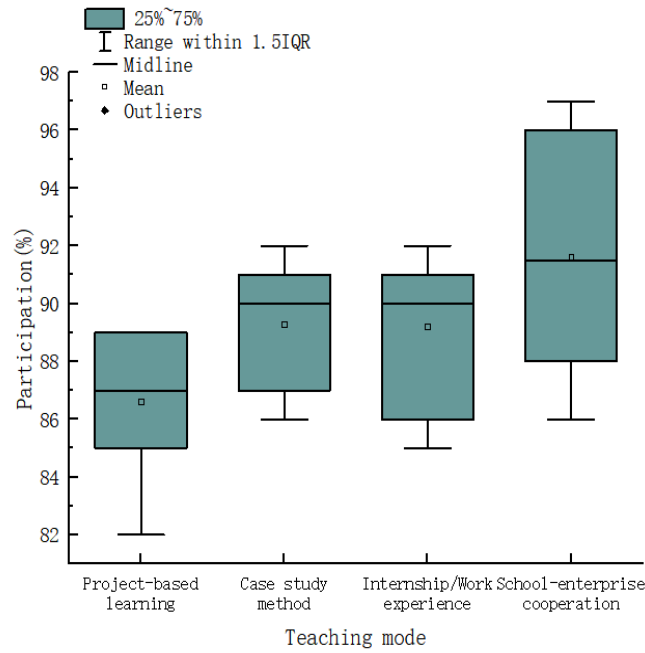


Figure 3: Student engagement

From Figure 3, it can be seen that the average student participation of the diversified practical teaching model designed in this article under school enterprise cooperation is higher than that of project-based learning, case study method, and internship/work experience teaching models. From the median line of student participation, the diversified practical teaching mode designed in this article also has a higher level of student participation than other methods. However, it is worth noting that the teaching mode designed in this article has a wider range of student engagement, indicating that student engagement is less stable when using this mode for learning. From Figure 3, it can be seen that the practical teaching mode designed in this article has the highest student participation rate of 97%, while the other three methods have the highest student participation rate of 92%. This indicates that the teaching mode designed in this article has significant advantages in stimulating students' learning interest and participation. The high participation of this diversified practical teaching model can be attributed to its combination of theory and practice, individual learning and team cooperation, which is more in line with the learning habits and needs of contemporary students.

### 5.3 Knowledge Mastery Level

The collected data on the level of knowledge mastery is shown in Figure 4:

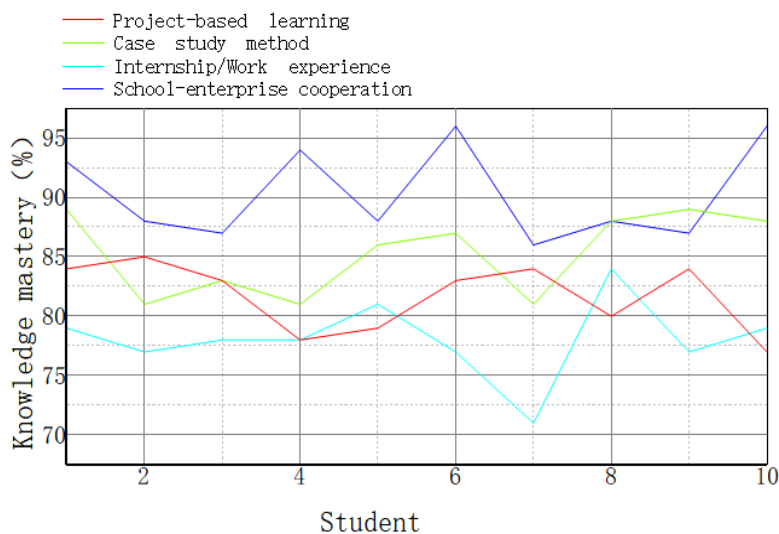


Figure 4: Knowledge mastery level

From Figure 4, it can be seen that the diversified practical teaching mode designed in this article under school enterprise cooperation has a relatively high overall mastery level, and all are above 85%. The knowledge mastery level of internship/work experience is relatively low and fluctuates greatly. It can be observed that although the overall knowledge mastery of students using the case study method is not as good as that of students using the diversified practical teaching mode designed in this article under school enterprise cooperation, there are also certain advantages.

#### 5.4 Student Satisfaction

The student satisfaction scores collected in this article have been statistically processed, and the extreme and mean satisfaction scores obtained are shown in Table 2.

Table 2: Student Satisfaction Rating

Teaching mode	Maximum satisfaction	Minimum satisfaction	Average satisfaction	Range
Project-based learning	89	76	83.9	13
Case study method	91	82	85.7	9
Internship/Work experience	88	77	84.2	11
School-enterprise cooperation	95	86	91.3	9

From Table 2, it can be seen that the student satisfaction scores of the diversified practical teaching mode under school enterprise cooperation designed in this article are higher in both the maximum and minimum values compared to other methods. In terms of average satisfaction, the average satisfaction rating of students in project-based learning teaching mode is only 83.9, while the average satisfaction rating of students in case study method is 85.7. However, the average satisfaction rating of students in the teaching mode designed in this article can reach 91.3. This indicates that the diversified practical teaching model designed in this article under school enterprise cooperation has significant advantages in terms of student satisfaction compared to project-based learning and case study methods. Students are more satisfied with this teaching model, which better combines theory and practice, is closer to the actual situation of enterprises, and provides students with a more practical learning experience.

#### 5.5 Improvement of Knowledge Level

The knowledge level improvement data collected through the pre - and post knowledge collection tests of the students participating in the experiment is shown in Figure 5:

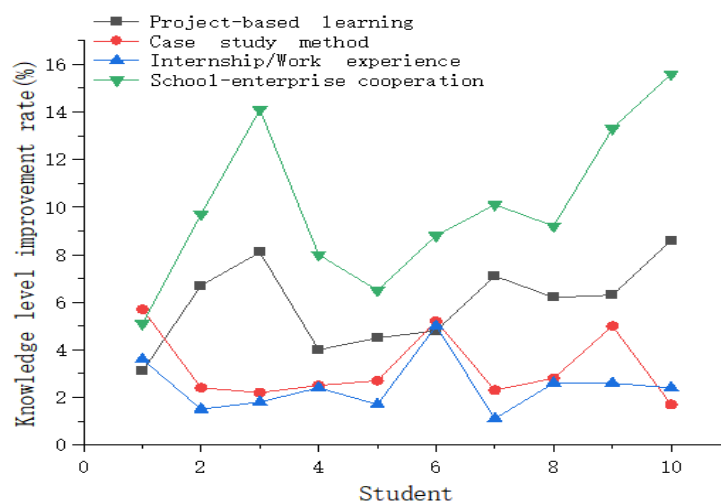


Figure 5: Improvement in knowledge level

From Figure 5, it can be seen that the diversified practical teaching mode designed in this article under school enterprise cooperation has the highest improvement in students' knowledge level, which is far higher than the teaching mode of case study method and internship/work experience. Under the teaching mode designed in this article, the highest level of knowledge improvement for students is 15.6%, while under the other three modes, the highest level of improvement for students is only 8.6%.

This difference can be attributed to the school enterprise cooperation mode providing richer practical application scenarios and closer industry connections, enabling students to have a deeper understanding and mastery of knowledge.

## 6. Conclusions

Through the data research in this article, it is found that constructing a curriculum practice system around the three-dimensional integration of "knowledge, ability, and quality" can improve student participation, knowledge mastery, and satisfaction, and can significantly enhance their knowledge level. Diversified practical teaching models are crucial for enhancing students' interest in learning, enhancing their practical abilities, and fostering innovative thinking. Future research can continuously improve teaching models based on industry development trends and student feedback, further enhancing teaching effectiveness and student employment competitiveness.

## Acknowledgement

Project number: WZYYFFP2022005 Comprehensive research project on R&D feedback teaching

Project Number: FG2022052 Research on the application of digital technology in the design of elderly care space

Project Number: H2022174 Digital research and development of green decoration design

## References

- [1] Tremblay-Wragg É, Raby C, Ménard L. *The use of diversified teaching strategies by four university teachers: what contribution to their students' learning motivation? Teaching in Higher Education*, 2021, 26(1): 97-114.
- [2] Dadakhanov F, Sharopov B, Umarov I. *Prospects Of Innovative Materials Production In The Building Materials Industry. Journal of new century innovations*, 2022, 18(1): 162-167.
- [3] Saeb M R, Rabiee N, Seidi F. *Green CoNi<sub>2</sub>S<sub>4</sub>/porphyrin decorated carbon-based nanocomposites for genetic materials detection. Journal of Bioresources and Bioproducts*, 2021, 6(3): 215-222.
- [4] Rafikovna I Z, Inomjonovich M R. *Formation Of Students'creative Technology, Folk Craft Skills In Technology Courses. Web of Scientist: International Scientific Research Journal*, 2022, 3(11): 798-802.
- [5] Shomirzayev M K, Pakhratdinova R O. *Characteristics of Organization and Conduct of Practical Courses on National Crafts in Technology. Asian Journal of Research in Social Sciences and Humanities*, 2021, 11(9): 182-192.
- [6] Feng W, Li X. *Innovative application research on the combination of art design and engineering practice education under the background of new media. International Journal of Electrical Engineering & Education*, 2023, 60(2 suppl): 427-435.
- [7] Parvate S, Singh J, Dixit P. *Titanium dioxide nanoparticle-decorated polymer microcapsules enclosing phase change material for thermal energy storage and photocatalysis. ACS Applied Polymer Materials*, 2021, 3(4): 1866-1879.
- [8] Khurniawan A W, Sailah I, Muljono P. *The Improving of Effectiveness School-Based Enterprise: A Structural Equation Modeling in Vocational School Management. International Journal of Evaluation and Research in Education*, 2021, 10(1): 161-173.
- [9] Prieto L, Phipps S, Giugni L. *Teaching (cooperative) business: The "Bluefield experiment" and the future of black business schools. Academy of Management Learning & Education*, 2021, 20(3): 320-341.
- [10] Li B, Fei Y, Liu H. *An artificial intelligence based model for evaluation of college students' ability and characteristics through teaching evaluation. Journal of Intelligent & Fuzzy Systems*, 2021, 40(2): 3397-3407.
- [11] Perlado Lamo de Espinosa I, Muñoz Martínez Y, Torrego Seijo J C. *Students with special educational needs and cooperative learning in the ordinary classroom: some learnings from teaching practice. Journal of Research in Special Educational Needs*, 2021, 21(3): 211-221.
- [12] Anggadwita G, Dana L P, Ramadani V. *Empowering Islamic boarding schools by applying the humane entrepreneurship approach: the case of Indonesia. International Journal of Entrepreneurial Behavior & Research*, 2021, 27(6): 1580-1604.
- [13] Doherty B, Kittipanya-Ngam P. *The emergence and contested growth of social enterprise in Thailand. Journal of Asian Public Policy*, 2021, 14(2): 251-271.