

The reliability and validity test of moral opportunity identification and creation ability of primary school teachers

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Abstract: Taking the ability of moral education opportunity identification and moral education opportunity creation as the first-level indicators; "parallel identification", "teaching identification", "environment identification", "explicit identification", "school driven situation" and "teacher guided situation" as the secondary indexes, the reliability and validity of the scale of 24 questionnaire questions in six second-level indicators are tested. The reliability test was carried out by SPSS software, and Klonbach coefficient of the whole questionnaire was obtained. On this basis, with AMOS, the software tested the structure validity, aggregation validity, and differentiation validity, and obtained the average variance extraction of each dimension and RMSEA, GFI, AGFI, CFI, IFI, and TLI of the model. The analysis results show that the six dimensions have good reliability and validity, which can be used as a reference to test the ability of primary school teachers' moral education opportunities.

Keywords: Primary school teachers; opportunity for moral education; reliability; validity

1. Introduction

In the context of high-quality development of the world economy and society, complex and changeable domestic and foreign environment and many profound ideological fields, cultivating new people with both integrity and ability has become a new challenge on the road of teacher education. In the process of improving the high-quality education system, moral education is both moral, intellectual, physical, aesthetic and socialist education, and moral education is in the leading position, which has become the vane of teaching and educating people in the new era. As an important place to carry out moral education activities, give full play to the actual effect of moral education and realize the function of education, teachers are the essential protagonists of moral education, so it is urgent to study teachers' moral education ability to grasp the opportunity of moral education.[1]

In addition, the national policy stipulates that teachers should strengthen the penetration of moral knowledge in the teaching process, and develop the function of teachers as guides. The requirements of moral education and knowledge should be put together in the goal of teaching and educating people, and the moral education syllabus should be closely revolved around, so that students' moral understanding, moral emotion, moral consciousness and moral behavior in daily life can develop together. Teachers are not only the practitioners of teaching concepts, but also the implementers of the teaching process, which has the task of teaching and educating people. Teaching and educating people are just the two inseparable contents of talent training, which will directly affect the development and results of teaching. Teachers' teaching methods directly or indirectly affect students' academic development, and excellent teaching methods stimulate students' interest in learning to a certain extent.[2] Moral education, as the marginal knowledge of learning, not only affects students' mastery of other knowledge, but also plays an important role in students' thinking, character and character. In the process of moral cultivation, teachers are accustomed to inform students of correct practices and proper views, and there are formal solid diseases in teaching methods.

However, in the practical research process of how to grasp the opportunity of moral education, there is a lack of systematic use of statistical software to analyze the reliability and validity of evaluation questionnaires or scales. Statistical analysis tools use SPSS24.0 and AMOS22.0 to analyze the reliability and validity test process of a questionnaire including moral opportunity identification and

moral opportunity creation, e. g.

2. Research technique

In this study, the questionnaire survey method, taking primary school teachers as the survey object, determines the elements and dimensions of teachers' moral education opportunities in teaching and daily school life. In the process of preparation, because there is no suitable matching scale, so the researchers can only through a lot of reading literature, extracted from the literature the original representation of test questionnaire, and the initial questionnaire reliability effect, analysis, and modification, inductive classification, from the original multiple dimensions extracted for now two level indicators "opportunity" and "moral education" create moral education opportunities "and six secondary indicators" parallel identification "," teaching recognition "," "recognition of environment", "explicit identification", "school driven situation" and "teacher guide situation". In addition, in order to improve the reliability of the questionnaire, the researchers set four sub-questions in each dimension, and finally compiled the Questionnaire on the Status of Moral Education Opportunity Identification and Creation Ability of Primary School Teachers. This questionnaire adopts five-point Likert scale, which is divided into five levels according to the degree of conformity of the investigators' understanding of moral behavior, 5 is very consistent, 1 is very inconsistent. The core items, codes and the contents of the questionnaire design are shown in Table 1 below:

Table 1 Core items and coding of questionnaire design

| code | concrete issue |
|---|---|
| Identification of moral education opportunity dimension —— parallel identification | |
| PXSB1 | I can find the moral opportunities in the students' individual growth. |
| PXSB2 | I can identify the moral opportunities in the class collective activities. |
| PXSB3 | I can promote the development of individual moral education through collective moral education. |
| PXSB4 | I can promote the development of collective moral education through individual moral education. |
| Identification of moral education opportunity dimension —— teaching identification | |
| JXSB1 | I can go deep into the moral education opportunity in textbooks when preparing lessons. |
| JXSB2 | I can explore the moral education opportunities in the process of class education. |
| JXSB3 | I can turn my classroom problems into opportunities for moral education. |
| JXSB4 | I can identify the opportunity of moral education in the recess activities. |
| Identification of moral education opportunity dimension —— environment identification | |
| HJSB1 | I can detect the moral opportunity in the school environment. |
| HJSB2 | I can find moral education opportunities in students' off-school activities. |
| HJSB3 | I can associate with the relevant moral education situation required by the goal according to the moral education goal. |
| HJSB4 | I can use the teaching equipment to show the situation outside the school to explore the opportunities for moral education. |
| Identification of moral education opportunity dimension —— explicit identification | |
| XXSB1 | I can find out the opportunities for moral education through a dialogue with my students. |
| XXSB2 | I can find out the opportunities for moral education by observing the students' independent behavior. |
| XXSB3 | I can find the opportunities for moral education when listening to the students' dialogue. |
| XXSB4 | I can find moral education opportunities through students' written language. |
| Create the moral education opportunity dimension —— School-driven situation | |
| XXQD1 | I can create a social moral education situation according to the school goals. |
| XXQD2 | I can create a situation of moral education according to the requirements of the school. |
| XXQD3 | I can enhance the students' moral awareness through the young Pioneers' moral education activities. |
| XXQD4 | I can guide students to conduct correct moral behavior through social practice. |
| Create moral education opportunity dimension —— Teacher guidance situation | |
| JSYD1 | I can accumulate more moral education cases in ordinary times. |
| JSYD2 | I can create a moral education situation in class meetings.(The head teacher fills in this question.) |
| JSYD3 | I can create the corresponding moral education situation according to the category of moral education. |
| JSYD4 | I can improve students' moral awareness through case teaching. |

This questionnaire consists of two parts, each with 32 questions. The first part is "background information", including 8 questions about the respondent's gender, teaching age, whether he or she is a head teacher, administrative position, educational background, professional title, teaching subject and working place. The second part is the core part of the questionnaire, with 24 questions, see Table 2. The

answer form of the questionnaire is the five-point Likert scale. The higher the degree of compliance, the higher the score, and the full score is 5 points. On the determination of sample size Loehin samples for at least 100 (1992) suggested the Bollen (1989) shall be determined according to the research field of the appropriate sample size. The questionnaires were distributed and collected online, and 131 questionnaires were effectively collected. The basic situation is shown in Table 2.

Table 2 List of Sample Information

| Demographic variables | class | quantity | percentage (%) |
|--|-------------------|----------|----------------|
| Sex | man | 61 | 46.6 |
| | woman | 70 | 53.4 |
| of school age | Within 5 years | 21 | 16.0 |
| | 6-15 Years | 26 | 19.8 |
| | And 16- -25 years | 32 | 24.4 |
| | And 16- -25 years | 35 | 26.7 |
| | Over 35 years | 17 | 13.0 |
| Whether (ever) is the class masteryes | Rendeny | 85 | 64.9 |
| | | 46 | 35.1 |
| The Principal (Vice-President) dean | | 17 | 13.0 |
| | | 30 | 22.9 |
| Administrative leader of the grade Teaching and research group leader | | 33 | 25.2 |
| | | 20 | 15.3 |
| | other | 31 | 23.7 |
| Specialist and below record of formal schooling undergraduate college postgraduate other | | 34 | 26.0 |
| | | 63 | 48.1 |
| | | 24 | 18.3 |
| | | 10 | 7.6 |
| Senior or special-grade teacher | | 28 | 21.4 |
| | | 59 | 45.0 |
| professional ranks and titles First-level teacher Second-level teachers Not rated | | 25 | 19.1 |
| | | 19 | 14.5 |
| | | 19 | 14.5 |
| The language number of English Teaching subjects | | 82 | 62.6 |
| | | 33 | 25.2 |
| Sound body beauty Ideological and political and other | | 16 | 12.2 |
| | | 16 | 12.2 |
| city proper The area of the school | | 49 | 37.4 |
| | | 75 | 57.3 |
| Urban-rural fringe department (county) rural area | | 7 | 5.3 |
| | | 7 | 5.3 |

3. Reliability test

The scale of the questionnaire cannot be separated from the reliability test, which verifies the reliability of the questionnaire. The closer the reliability of the questionnaire is, the higher the reliability of the questionnaire is. The scale with high reliability is less affected by factors such as time and place, and the results are relatively stable. In this study, the clonal Bach coefficient method obtained the Cronbach α coefficient of 0.884, which indicates that the questionnaire has good reliability and can continue further analysis. The data are shown in table 3.

Table 3 Reliability analysis results of the questionnaire on moral education opportunity identification and creation ability of Primary school teachers

| respondent | Cronbach α Coefficient | number of terms |
|----------------------|-------------------------------|-----------------|
| Grade School Teacher | 0.884 | 24 |

4. Validity test

Statistically, validity is usually divided into content validity, accuracy validity, and architectural validity. Factor analysis is usually used for validity testing, but SPSS software can only be used for exploratory factor analysis. If you want to get the data of confirmatory factor analysis, AMOS software should be used, provided that SPSS validity value can be used for factor analysis. In this study, the KMO value and Bartlett's spherical test value of the 24 items of the questionnaire were tested. If the

KMO is greater than 0.6, the validity of the questionnaire is acceptable. The Bartlett spherical test value is whether the correlation coefficient between the items is significant. When the results show Sig. At <0.05, it indicates that there is a correlation between the variables and a factor analysis can be performed. Moreover, the larger the KMO value, the more common factors among variables and the lower the net correlation coefficient between variables, the more suitable for factor analysis.[3] The KMO values and Bartlett's spherical test values for this study are shown in Table 4.

Table 4 KMO values and Bartlett's spherical test values of identifying and creating moral education opportunities

| | | |
|--------------------------|--------------------------------|----------|
| KMO | Number of sampling suitability | 0.873 |
| Bartlett sphericity test | Approximate chi square | 1142.658 |
| | free degree | 276 |
| | conspicuousness | 0.000 |

The data results showed that the KMO value was 0.873 and the significance was 0.000, indicating that the questionnaire is suitable for factor analysis. As shown in table 5 and 6, The researchers further conducted the analysis with AMOS software:

Table 5 The AMOS model diagram

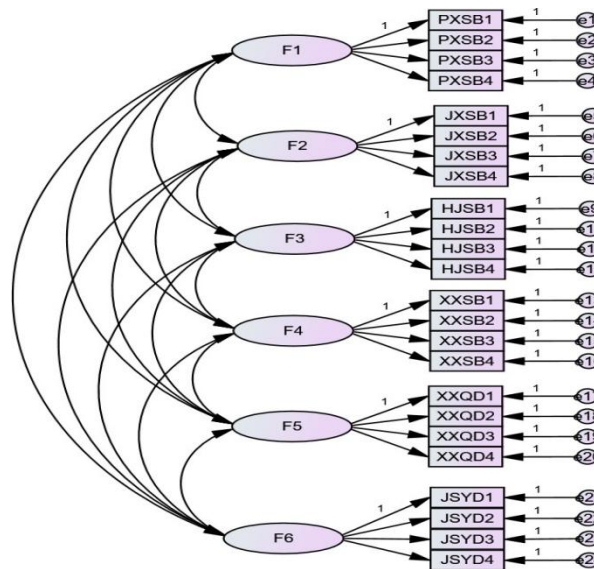


Table 6 Overall fit coefficient table (structural validity)

| name of index | Consult scope | Measure model |
|---|---------------|---------------|
| The ratio of chi-square values to degrees of freedom (X ² /DF) | ≤5 | 1.477 |
| Progressive residual mean square and square root (RMSEA) | ≤0.08 | 0.041 |
| With moderate index(GFI) | ≥0.90 | 0.925 |
| After adjustment with a moderate index(AGFI) | ≥0.90 | 0.978 |
| Compare the adaptation index(CFI) | ≥0.90 | 0.981 |
| Value-added adaptation index(IFI) | ≥0.90 | 0.986 |
| Non-canonical fitting exponent(TLI) | ≥0.90 | 0.961 |

As for the output result of the model, by comparing the model fitting data with the reference range, we know that X²/DF is 1.477, which is less than 3; RESEA was 0.041, less than 0.05; GFI was 0.925, greater than 0.9; The AGFI was 0.978, greater than 0.9; The CFI is 0.981, greater than 0.9; IFI is 0.986, greater than 0.9; TLI is 0.961, greater than 0.9, the model fits well and is acceptable.

Table 7 Table of standardized regression coefficient —— factor load number

| (aggregate validity) | | | | | |
|----------------------|----|-------|--------|--------|--------|
| PXSB1 <--- | F1 | 0.759 | | | |
| PXSB2 <--- | F1 | 0.717 | | | |
| PXSB3 <--- | F1 | 0.705 | 0.5024 | 0.8126 | |
| PXSB4 <--- | F1 | 0.703 | | | |
| JXSB1 <--- | F2 | 0.871 | | | |
| JXSB2 <--- | F2 | 0.716 | | 0.637 | 0.8746 |
| JXSB3 <--- | F2 | 0.759 | | | |
| JXSB4 <--- | F2 | 0.837 | | | |
| HJSB1 <--- | F3 | 0.828 | | | |
| HJSB2 <--- | F3 | 0.729 | 0.6544 | | 0.8829 |
| HJSB3 <--- | F3 | 0.799 | | | |
| HJSB4 <--- | F3 | 0.873 | | | |
| XXSB1 <--- | F4 | 0.707 | | | |
| XXSB2 <--- | F4 | 0.883 | | | |
| XXSB3 <--- | F4 | 0.744 | | | |
| XXSB4 <--- | F4 | 0.804 | | | |
| XXQD1 <--- | F5 | 0.837 | | | |
| XXQD2 <--- | F5 | 0.873 | 0.699 | | 0.9025 |
| XXQD3 <--- | F5 | 0.871 | 0.6199 | | 0.8662 |
| XXQD4 <--- | F5 | 0.758 | | | |
| JSYD1 <--- | F6 | 0.721 | | | |
| JSYD2 <--- | F6 | 0.840 | | | |
| JSYD3 <--- | F6 | 0.790 | 0.616 | 0.8649 | |
| JSYD4 <--- | F6 | 0.784 | | | |

According to the table 7, the Estimate normalized factor load coefficient is greater than 0.7, the AVE average variance extraction amount is greater than 0.5, and the CR combination reliability is greater than 0.77. The combined reliability of the potential variables is one of the criteria for determining the intrinsic quality of the model. [6] The combined reliability of this questionnaire is greater than 0.6, indicating that the latent variables corresponding to the required questions are representative, and the aggregate validity of this questionnaire is good.

Table 8 Differentiation validity

| | F1 | F2 | F3 | F4 | F5 | F6 |
|------------------|--------|-------|--------|--------|-------|-------|
| F1 | 0.5024 | | | | | |
| F2 | 0.685 | 0.637 | | | | |
| F3 | 0.704 | 0.708 | 0.6544 | | | |
| F4 | 0.693 | 0.776 | 0.731 | 0.6199 | | |
| F5 | 0.676 | 0.714 | 0.788 | 0.723 | 0.699 | |
| F6 | 0.696 | 0.765 | 0.773 | 0.707 | 0.809 | 0.616 |
| AVE, square root | 0.709 | 0.798 | 0.809 | 0.787 | 0.836 | 0.785 |

As can be seen from the above table 8, there is a significant correlation between F1 and F6 ($p < 0.01$), and the correlation coefficient is less than the corresponding AVE square root, indicating that there is a certain correlation between each latent variable, and there is a certain degree of differentiation between them, and the differentiation validity of the scale is ideal.

5. Suggestions for primary school teachers to grasp the opportunity of moral education

This part combines the overall description statistics and related reliability validity, analyzes the identification and grasp of moral education opportunities of primary school teachers, and puts forward some feasible implementation suggestions for primary school teachers in moral education practice. First of all, through the comparison of sample information, we found that the gender ratio of primary school teachers is relatively balanced, so there is no gender moral bias. Secondly, we can further prepare a questionnaire on the degree of influence of class teachers on moral education of teachers. 65% of teachers have been class teachers, and relevant data show that in practical teaching, teachers who do not have the beautiful skills of sound and body are more likely to become class teachers in the first year, so moral education of class teachers has also become an important task for teachers. In

addition, the influence of teachers' educational background, teachers' teaching subjects and the area where teachers work on teachers' moral education opportunities also need to be further studied. Among the demographic variables, the teachers of language, number and English subjects contribute the most to the survey of teachers' moral education ability, which also shows from the side that these teachers attach great importance to the opportunity of moral education, or in the urgent need to improve their moral education ability.

Apart from the background information, the core part of the questionnaire is six dimensions, including the four dimensions of identifying moral education opportunities and the two dimensions of creating moral education opportunities. Among the six dimensions, the lowest average variance extraction is "parallel identification". First, it is due to the "primary effect" that the respondents have not invested before the questionnaire is not enough, the reliability of the first dimension is not strong, or the topic does not clearly express the meaning of identification; third, the questionnaire and the actual correlation are not strong and needs to be improved. The highest average variance is "school-created situation", which indicates that schools, as an important place for moral education, still attach great importance to the completion of school tasks. Therefore, schools should have a comprehensive and coherent consciousness in the grasp of moral education opportunities for teachers. For example, schools can use "hidden curriculum" to infiltrate moral education knowledge on campus environment slogans. Schools can organize moral education case training to share traditional morality and advanced morality with teachers and students as the main body, including all aspects of moral education such as mode, classification, character and scene; Or it can also carry out "moral education symposium", "moral education week" and other related moral activities. In addition, as a primary school teacher, we should improve our moral education awareness. On the one hand, teachers should pay attention to the improvement of self-quality and self-moral cultivation, and set an example; on the other hand, they should be good at capturing the opportunity of moral education, identifying the "entrance" of opportunity, and use moral wit and students' "moral development.

Area " combination, in the case of students thirst for moral knowledge timely point, the correct direction.

6. Conclusion

Based on the analysis of the data results of SPSS software and AMOS software on the questionnaire of Moral Education Opportunity Identification and Creation Ability of Primary school teachers, it further shows the importance of empirical research to education and teaching research, and proposes reasonable improvement measures according to the obtained factors and the influence relationship and importance degree of various factors. Software analysis not only provides data support, but also opens up a new path for subsequent research. However, in the process of empirical research, there are two aspects that need to be paid attention to. First, there is no doubt about mastering software; second, researchers should pay attention to research design, such as the design of questionnaire scale, and think about how to analyze the data in the later stage.

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Annex: Questionnaire

Primary school teachers moral education opportunity identification and creation ability status questionnaire

Dear teacher:

shalom! Thank you very much for taking time out of your busy schedule to participate in this survey! I am a graduate student of education in Zhejiang Normal University. I am doing a research on the ability of primary school teachers 'ability to identify and create moral education opportunities, aiming to understand the status quo of primary school teachers' grasp of moral education opportunities and the research on promotion strategies. This survey is only for research use, guarantee that there is no other use, the survey is in the form of anonymous use, will strictly protect your personal information, please rest assured to fill in, thank you for your support and cooperation!

1. background information

1. Your gender: A.man B.woman
2. Your teaching age:
 - A. Within 5 years and less than B.6-15 years
 - C.16-25 years D.26- -35 years E. More than 35 years
3. Are you (once) the class teacher: A.yes B.deny
4. Your administrative position is the ().
 - A.(Deputy) Principal B.dean C.leader of the grade
 - D. Teaching and research group leader E. Other positions F. No
5. Your highest degree is ().
 - A. Specialty and below B.undergraduate college
 - C.postgraduate D. Other
6. Your current professional title is ().
 - A. Primary Grade B. Elementary School Senior
 - C. Primary school level 1 D. Primary school level 2
 - E. Primary school Level 3 F. Not rated
7. Your main teaching discipline is ().
 - A. Chinese B.mathematics C. English D.science
 - E.ideology and morality F.music G.the fine arts H.physical culture I.other
8. The school that you work for is located in the ().
 - A.city proper B.rural-urban fringe zone C.rural area

The formal problem

| order number | concrete issue | 1= Very no accord with | 2= Compare no accord with | 3=No confirm | 4= Compare close | 5= Very character close |
|---|---|------------------------|---------------------------|--------------|------------------|-------------------------|
| Identification of moral education opportunity dimension —— parallel identification | | | | | | |
| 1 | I can find the moral opportunities in the students' individual growth. | 1 | 2 | 3 | 4 | 5 |
| 2 | I can identify the moral opportunities in the class collective activities. | 1 | 2 | 3 | 4 | 5 |
| 3 | I can promote the development of individual moral education through collective moral education. | 1 | 2 | 3 | 4 | 5 |
| 4 | I can promote the development of collective moral education through individual moral education open up. | 1 | 2 | 3 | 4 | 5 |
| Identification of moral education opportunity dimension —— teaching identification | | | | | | |
| 5 | I can go deep into the moral education opportunity in textbooks when preparing lessons. | 1 | 2 | 3 | 4 | 5 |
| 6 | I can explore the moral education opportunities in the process of class education. | 1 | 2 | 3 | 4 | 5 |
| 7 | I can turn my classroom problems into opportunities for moral | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|--|--|---|---|---|---|---|
| | <i>education.</i> | | | | | |
| 8 | <i>I can identify the opportunity of moral education in the recess activities.</i> | 1 | 2 | 3 | 4 | 5 |
| Identification of moral education opportunity dimension —— environment identification | | | | | | |
| 9 | <i>I can detect the moral opportunity in the school environment.</i> | 1 | 2 | 3 | 4 | 5 |
| 10 | <i>I can find moral education opportunities in students' off-school activities.</i> | 1 | 2 | 3 | 4 | 5 |
| 11 | <i>I can think of the goal needed according to the moral education goal Related to the moral education situation.</i> | 1 | 2 | 3 | 4 | 5 |
| 12 | <i>I can use the teaching equipment to show the situation outside the school to explore the opportunities for moral education.</i> | 1 | 2 | 3 | 4 | 5 |
| Identification of moral education opportunity dimension —— explicit identification | | | | | | |
| 13 | <i>I can find out the opportunities for moral education through a dialogue with my students.</i> | 1 | 2 | 3 | 4 | 5 |
| 14 | <i>I can find moral education by observing students' independent behavior chance.</i> | 1 | 2 | 3 | 4 | 5 |
| 15 | <i>I can find the opportunities for moral education when listening to the students' dialogue.</i> | 1 | 2 | 3 | 4 | 5 |
| 16 | <i>I can find moral education opportunities through students' written language.</i> | 1 | 2 | 3 | 4 | 5 |
| Create the moral education opportunity dimension —— School-driven situation | | | | | | |
| 17 | <i>I can create a social moral education situation according to the school goals.</i> | 1 | 2 | 3 | 4 | 5 |
| 18 | <i>I can create students' after-class moral education according to the requirements of the school Activity situation.</i> | 1 | 2 | 3 | 4 | 5 |
| 19 | <i>I can improve the students through the young Pioneers' moral education activities moral consciousness.</i> | 1 | 2 | 3 | 4 | 5 |
| 20 | <i>I can guide students to correct morals through social practice action.</i> | 1 | 2 | 3 | 4 | 5 |
| Create moral education opportunity dimension —— Teacher guidance situation | | | | | | |
| 21 | <i>I can accumulate more moral education cases in ordinary times.</i> | 1 | 2 | 3 | 4 | 5 |
| 22 | <i>I can create a moral education situation in class meetings. (The head teacher should fill in this question, but other teachers will not fill in it)</i> | 1 | 2 | 3 | 4 | 5 |
| 23 | <i>I can create the corresponding moral education according to the moral education category circumstances.</i> | 1 | 2 | 3 | 4 | 5 |