

Development, Validity, and Reliability of the Humanistic Literacy and Employment Ability Scales for Vocational School Students

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ABSTRACT

The current study designed two literacy scales to investigate the humanistic literacy and employment ability of vocational school students. According to the investigation (N=87), we identified that the humanistic literacy scale included two dimensions of literary quality and language application ability, while the employment ability scale included two dimensions of communication ability and vocational skills. The validity and reliability of the scales are acceptable. Results indicated that humanistic literacy had a positive and significant relationship on employment ability. The current study provides a quantitative referential solution for forthcoming investigations on humanistic literacy and employment ability.

Keywords: *Scale development, validity, humanistic literacy, employment ability, vocational school*

1. INTRODUCTION

Career literacy education is an important feature of literacy education in vocational schools and has become an important value orientation of modern vocational education. In 2012, the Ministry of Education had issued the “professional teaching standards for secondary vocational schools (Trial)” clearly put forward that vocational school graduates should have “professional career literacy, knowledge and skills,” that is to regard the career literacy as an important part of personnel training in secondary vocational schools, and as an important indicator to measure the maturity of an employee [1]. Therefore, how to effectively improve the career literacy of secondary vocational school students has become one of the problems that need to be solved.

2. BACKGROUND

The employment ability is one of the most important parts of career literacy, which refers to the attributes of a person that make that person able to gain and maintain employment. A qualified employee should have enough communication ability and vocational skills, such as listening, expressing, creativity, execution, and coordination [2].

In order to enhance students’ career literacy, especially employment ability, previous studies proposed that humanistic literacy could help increase employment ability. Because employees in a modern society need applied linguistic skills and aesthetics to support their communication and collaboration at work, and need to understand user requirements accurately.

Humanistic literacy has abundant connotations. The research on Chinese students’ core-literacy proposed that students should:

- a. gain basic knowledge on the achievements in the field of Humanities at all times and in all over the world;
- b. be able to understand and master the cognitive and practical methods contained in humanistic thoughts;
- c. have people-oriented consciousness, respect and safeguard human dignity and value, and concern about human survival, development, and happiness;
- d. gain basic art knowledge, skills, and methods;
- e. understand and respect the diversity of culture and art;
- f. have the consciousness and basic ability of discovering, perceiving, appreciating and evaluating beauty;
- g. have a healthy aesthetic value;
- h. have the interest and consciousness of artistic expression and creative expression [3-4].

This definition includes the cultural accumulation of knowledge and aesthetics, as well as the knowledge of language application. They both contribute to the employment ability [5-6]. In order to improve students’ humanistic literacy and employment ability in routine teaching, the current study designed and validated two scales to help students self-measuring the progress in humanistic literacy and employment ability. The scales also can be used as pedagogical tools for teachers to measure their teaching effectiveness.

3. DEVELOPMENT OF HUMANISTIC LITERACY AND EMPLOYMENT ABILITY SCALES

3.1. Scale design

First, according to the previous literature review, the current study organized three senior lecturers with rich experience in education and scientific research to develop the humanistic and employment literacy scales. The humanistic literacy scale was predefined to two dimensions, including literary quality and language application ability, while the employment ability scale also included two dimensions of communication ability and vocational skills. Researchers designed at least three items for each dimension.

Second, the current study constructed a pre-test for the two scales with randomly selecting 10 students to fill out the scales. Students reported that some of the items had multiple meanings or easily triggering incorrect understanding. Thus, the current study refined the scale with students' suggestions.

Third, the current study recruited students from all three grades in a vocational school in North-east China with convenient sampling. 104 students participated in the investigation, while 87 of them reported valid information. The current study used SPSS 21.0 to analyze the data of all 31 items and found they basically followed a normal distribution, with acceptable kurtosis and skewness.

3.2. The Exploratory Factor Analysis of the Humanistic Literacy Scale and the Employment Ability Scale

The current study used SPSS 21.0 to do exploratory factor analysis (EFA). We excluded items that do not have qualified factor loadings, then constructed the final scales. The current study used main-factor analysis and Varimax methods during the process of matrix analysis and transpose.

According to the analysis, the humanistic literacy scale has reported KMO=0.812, Bartlett p-value<0.001, indicating the scale could be used for EFA. The scale is separated into two dimensions, with all factor loadings larger than 0.4. The first dimension, literary quality, has an explanatory power of 48.3%, while the second dimension, language application ability, has an explanatory power of 13.0%. The total explanatory power is 61.3%, which is fulfilled the requirements of scale development.

The reliability of the two dimensions is acceptable. For the literary quality reliability, the Cronbach's alpha = 0.822, and the language application ability's reliability = 0.835. (See Table 1 in detail.)

According to the analysis, the employment ability scale has reported KMO=0.833, Bartlett p-value<0.001, indicating the scale could be used for EFA. The scale is separated into two dimensions, with all factor loadings larger than 0.4. The first dimension, communication ability, has an explanatory power of 54.5%, while the second dimension, vocational skills, has an explanatory power of 14.1%. The total explanatory power is 68.5%, which is fulfilled the requirements of scale development.

The reliability of the two dimensions is also acceptable. For the communication ability reliability, the Cronbach's alpha = 0.661, and the vocational skill's reliability = 0.922. (See Table 2 in detail.)

Table 1. The Results of EFA in the Humanistic Literacy Scale

Item	Factor 1	Factor 2	Communalities
1	.449		.468
2	.629		.541
3	.804		.654
4	.848		.729
5	.718		.695
6		.764	.630
7		.788	.677
8		.806	.684
9		.775	.617
10		.476	.436
Cronbach's alpha	0.822	0.835	
Variance explained(%)	48.32%	12.99%	
Eigenvalue	4.832	1.298	

Table 2. The Results of EFA in the Humanistic Literacy Scale

Item	Factor 1	Factor 2	Communalities
1	.670		.478
2	.746		.582
3	.825		.731
4		.828	.732
5		.705	.602
6		.914	.864
7		.914	.850
8		.849	.776
9		.709	.551
Cronbach's alpha	0.661	0.922	
Variance explained(%)	54.45%	14.07%	
Eigenvalue	4.901	1.266	

validity and reliability and can be used to measure students' performance in daily teaching.

3.3. The Constructive Factor Analysis of Humanistic Literacy Scale and the Employment Ability Scale

The current study used AMOS22.0 to analyse the measurement model of two scales.

The goodness-of-fit of CFA in the humanistic literacy scale indicated that the model fit is good, with chi-square/degree of freedom = 1.92, CFI>0.9, TLI>0.9, and RMSEA =0.1.

The goodness-of-fit of CFA in the employment ability scale indicated that the model fit is acceptable, with chi-square/degree of freedom = 2.10, CFI>0.9, TLI>0.9, and RMSEA =0.11.

The results can be improved if more participants joined the research, but at least there are acceptable. Thus, the results of the study support that the two scales have acceptable

4. RELATIONSHIP BETWEEN TWO SCALES

The current study proposed that improving humanistic literacy may help enhance people's employment ability. Using the data in two scales, we conducted a path model to test the relationship between humanistic literacy and employment ability. The goodness-of-fit indicated that the model fit is good, with chi-square/degree of freedom = 1.68, CFI>0.9, and RMSEA =0.09. (See Figure 1 in details.)

According to the model results, the relationship between humanistic literacy and employment ability is 0.57, which is significant and positive. Therefore, it indicates that increasing humanistic literacy could enhance students' employment ability.

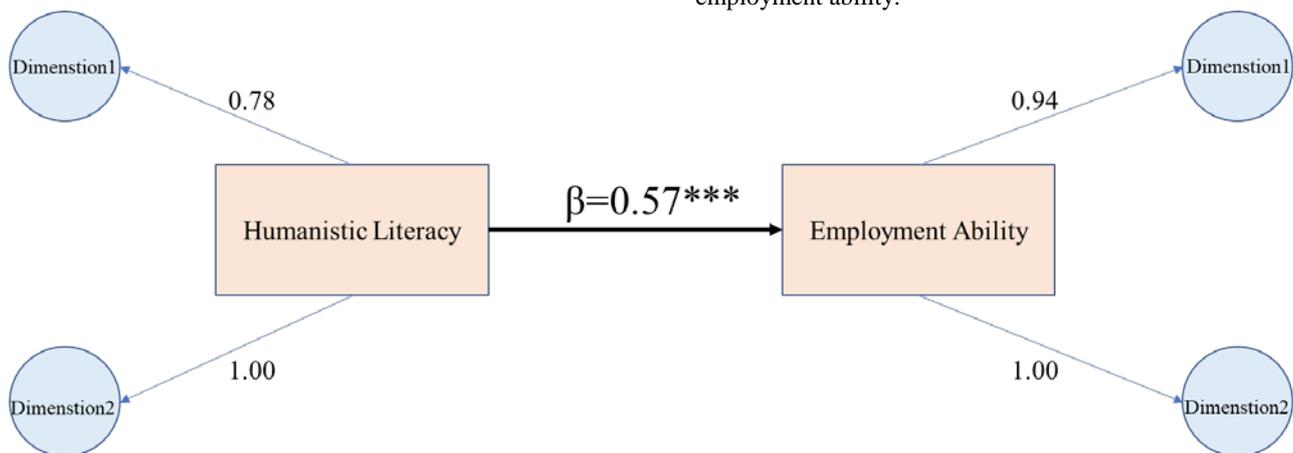


Figure 1. The Path Model of the Relationship between Humanistic Literacy and Employment Ability.

Note. *p<0.05; **p<0.01, ***p<0.001. Unstandardized coefficients.

5. CONCLUSION

In this study, the humanistic literacy scale is divided into two dimensions: literary quality and language application

ability, while the employment ability scale is also divided into two dimensions: communication ability and vocational skills. The path model analysis indicated that improving humanistic literacy is beneficial to students' employment ability. Through the preliminary analysis, the scale can be used as a reference for quantitative research, or self-

measurement tool in daily teaching circumstance on humanistic quality and employment ability in the future. The study has theoretical contributions, which can help clarify some wildly discussed constructs, such as humanistic literacy, as well as employment ability and build up a standard measurement for educators and students. The study also has practical implications, which can be used as a reference for teachers to test their teaching efficiency, or be used for students to test their ability on the job market.

There are some limitations of the study. First, the EFA and CFA need more participants to get more stable and valid results, which the researchers plan to do in the future. Second, the constructs of the scale still need further clarification because even Chinese and western countries' scholars use the same word, they do not mean exactly the same thing. Researchers plan to do more content analysis to clarify the different connotations of those constructs, explore more valid scales, and extend this quantitative research method to more vocational education studies in the future.

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APPENDIX A

Questionnaire on Humanistic Literacy and Employment Ability of Vocational School Students

Part A. Please mark "√" before the corresponding option

1. How do you like literature and art? (limited to one option)
A. Very fond of B. general C. not interested D. not clear
2. How often do you read literary works? (limited to one option)
A. Read often B. sometimes read C. occasionally read D. never read
3. What do you think of your literary appreciation ability? (limited to one option)
A. Very good B. general C. poor D. not clear
4. Do you want to improve your literary quality? (limited to one option)
A. I have thought about it and put it into action. B. I have thought about it, but I haven't put it into action for various reasons. C. It doesn't matter. As long as you can learn professional courses well. D. it hasn't been considered
5. Do you discuss the books you have read with your friends? (limited to one option)
A. Often discuss B. sometimes discuss C. seldom discuss D. never discuss

Part B. Please mark "√" before the corresponding option

1. Do you think your handwriting is neat? (limited to one option)
A. Very neat B. relatively neat C. general D. not neat
2. Do you think your handwriting is beautiful? (limited to one option)
A. Very beautiful B. relatively beautiful C. general D. not beautiful
3. Do you have the habit of practicing calligraphy? (limited to one option)
A. Very often B. relatively often C. general D. not often
4. If you have the chance, would you like to take part in calligraphy training in Chinese class? (limited to one option)
A. Very willing B. relatively willing C. less willing D. not willing
5. If you have the chance, would you like to participate in language expression training in Chinese class? (limited to one option)
A. Very willing B. relatively willing C. less willing D. not willing

Part C. Please mark "√" before the corresponding option

1. What do you think of your ability to communicate with others? (limited to one option)

A. Very good at B. relatively good at C. general D. not good at

2. When there is a conflict with colleagues and classmates, will you take the initiative to ease the conflict? (limited to one option)

A. Often B. sometimes C. seldom D. Not at all

3. When you have different opinions with teachers and leaders, will you express your views skillfully? (limited to one option)

A. Often B. sometimes C. seldom D. Not at all

Part D. Please mark “√” before the corresponding option

1. Do you think the Chinese lessons you have learned are helpful to your future work? (limited to one option)

A. Very helpful B. relatively helpful C. less helpful D. not helpful

2. Do you think the Chinese lessons you have learned are helpful to your understanding ability? (limited to one option)

A. Very helpful B. relatively helpful C. less helpful D. not helpful

3. Do you think the Chinese lessons you have learned are helpful to your executive ability? (limited to one option)

A. Very helpful B. relatively helpful C. less helpful D. not helpful

4. Do you think the Chinese lessons you have learned are helpful to your creativity? (limited to one option)

A. Very helpful B. relatively helpful C. less helpful D. not helpful

5. Do you think the Chinese lessons you have learned are helpful to cultivate professional loyalty? (limited to one option)

A. Very helpful B. relatively helpful C. less helpful D. not helpful

6. Do you think it is necessary to cultivate students' sense of professional loyalty? (limited to one option)

A. Very necessary B. relatively necessary C. less necessary D. not necessary

Part E. How do you understand “professional loyalty”? (write briefly below)