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A Construct Validity Of The Transferable Skills Scale For Assessment Of Career Guidance

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Abstract: Transferable skills are abilities and knowledge that can be used in various jobs and career paths and is related to the career development of students in the era of disruption. School counsellors need to understand student profiles related to these basic skill sets in order to be able to design career development programs that are relevant to today's career dynamics. This study aims to construct a transferable skill scale that can be used as a guidance and counselling assessment tool for student career development. The construction of this scale goes through the stages of 1) aspect construction based on literature studies, 2) item creation, and 3) pilot test (n=180). The construct validity test used Confirmatory Factor Analysis (CFA). The results of the CFA show that several dimensions of transferable skills require modification of the model until a fit model is obtained.. Thus the scale has a suitable model for measuring transferable skills, which consist of aspects of 1) Communication Skills (7 items), 2) Management Skills (9 Items), 3) Numerical Skills (5 Items), Creativity Skills (6 Items), Social Skills (6 Items), Critical Thinking Skills (5 Items), and Business Skills (6 Items).

Keywords: Transferable Skills, Scale, Career Guidance

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Introduction

Educational institutions face a challenge in creating quality graduates. The quality of today's graduates is tested by global competition. Indonesia has been trying to increase the Human Development Index (HDI) in the last 10 years to lift its position, which is still in the middle group of countries. Educational institutions are expected to be able to create quality graduates through the development of ecology, culture, and skills needed to face global competition.

Responding to these challenges, the Ministry of Education and Culture launched a "Merdeka Belajar" curriculum. This model encourages students to face competition (Siregar et al., 2020) , even for college

students are expected to be free in creativity and innovation and more prepared to enter the world of work (Wilhelmus, 2020). The essential idea of the "Merdeka Belajar" model is to make students have the courage to respond to future challenges that are growing fast, full of uncertainty and ready to "swim in the high seas" (Wilhelmus, 2020). The "Merdeka Belajar" curriculum has two contents for student career exploration: self-exploration and environmental exploration (Suryahadikusumah et al., 2022).

The implementation of career guidance by school counsellors is essential to support the success of these educational goals. The ability of teachers to observe students in depth through a series of assessments is the key to the career guidance that will be carried out (Marantika & Nugraha, 2021). Career assessment is one of the most critical facilities used in career selection and development (Palladino Schultheiss et al., 2019). Currently, school counsellors have limitations in conducting student career planning assessments because they depend on psychological tests that can only be done by outsiders (i.e psychologist, test institute) (Irman et al., 2021).

This phenomenon encourages researchers to develop a transferable skills scale as a career guidance assessment tool that school counselors can use. Transferable skills are abilities and knowledge that can be used in various jobs and career paths and are related to the career development of students in the era of disruption. Ramirez & Lafford (2018) argue that transferable skills refer to soft skills that are not specific to one job area but are essential for long-term success. Transferable skills are also described as the basic skills needed in every field of work (Ramos et al., 2013). Generally, transferable skills are regarded as valuable to (potentially) act efficiently in various real-life situations (Nägele & Stalder, 2017).

UNICEF categorizes transferable skills into the following skills: 1.) problem solving, 2.) negotiation, 3.) managing emotions, 4.) empathy, 5.) communication skills (Pribadi, 2022). Meanwhile, Kapranos (2014) describes transferable skills based on employers' needs to be relevant to today's world of work, namely 1) creativity, 2) critical thinking, 3) communication, and 4) adaptive skills. In addition to technical skills, business and management skills are also essential in line with the current development of the industrial world (Muhamad, 2012).

By understanding the profile of students' transferable skills, school counsellors will find it easier to design career guidance programs that assist students in developing skills and adapting to their career choices. It is different to the career assessment that is commonly used by school counsellors, which tends to be used for the placement of interests and talents only.

Previous research has shown that educational institutions can increase the employability of graduates and integrate learning curricula with skills development through understanding transferable skills (Tymon, 2013). An understanding of transferable skills also helps students to encourage lifelong learning and positive career development (Holmes, 2013). Transferable skills positively correlate with students' career adaptability (Rocha, 2012).

Therefore, research was conducted titled "Construct Validity Of The Transferable Skills Scale For Assessment Of Career Guidance". This study aims to construct a transferable skill scale that can be used as a guidance and counselling assessment tool for student career development and validate the constructs used as assessment tools in career guidance.

Method

This study aims to construct a transferable skill scale that can be used as a guidance and counselling assessment tool for student career development. The research respondents were students (school and collage) from Bandung, Banten, Surabaya and Makassar. Total respondents were 180 people. Research data obtained online via google form.

The dimensions used in the construction of the career adaptability scale generally refer to the essential skills put forward by UNICEF, but are then reviewed based on some supporting literature. The research tested 7 dimensions in a compiled scale. An overview of the model being tested can be seen in table 1 below.

Table 1 . Item grid

No	Skills	Item	Total Item
1	Communication Skills (CS)	I1,I2,I3,I4,I5,I6,I7	7
2	Management Skills (MS)	I8, I9, I10, I11, I12, I13, I14, I15, I16	9
3	Numerical Skills (NS)	I17, I18, I19, I20, I21	5
4	Creativity Skills (CRS)	I22, I23, I24, I25, I26, I27	6
5	Social Skills (SS)	I28, I29, I30, I31, I32, I33	6
6	Critical Thinking Skills (CTS)	I34, I35, I36, I37, I38	5
7	Business Skills (BS)	I39, I40, I41, I42, I43, I44	6

The construction of this scale goes through the stages of 1) aspect construction based on literature studies, 2) item creation, and 3) pilot test (n=180). The construct validity test used Confirmatory Factor Analysis (CFA). Data Analysis use an AMOS v.18. The fitness model's criteria follow the following Goodness of fit measures (Haryono, 2012).

1. *Absolute Chi-Square ($\chi 2$) , $p > 0,05$*
2. *Goodness Of Fit Indices (GFI) > 0,9*
3. *Root Means Square Of Approximation (RMSEA) < 0,08*

If the tested model does not meet the criteria, then a modified index can be carried out based on AMOS output and conformity with the theoretical framework. (Minto, 2016).

Results and Discussion

The construction of the transferable skills scale begins with establishing the domain of the skills being measured. Based on the theoretical study, 15 essential skills are included in transferable skills, but the researcher narrows it down to 7 skills that will be revealed through this scale. The consideration is the relevance of skills as measured by the context of employability. The description of the skills measured on the transferable skills scale can be seen in table 2 below.

Table 2 . Domain Transferable Skills

No	Skills	Description
1	Communication Skills (CS)	The ability to convey information to others by speaking, writing or in other media (Pellegrino & Hilton, 2012; UNICEF, 2019). Communication skills are also related to nonverbal communication and intercultural sensitivity (Salas et al., 2011).
2	Management Skills (MS)	Ability to manage projects, work in teams, and solve problems (Nägele & Stalder, 2017; Pellegrino & Hilton, 2012; UNICEF, 2019). Management skills are also related to people and time management (Muhamad, 2012; Setyorini & Shabrie, 2020).
3	Numerical Skills (NS)	Ability to understand and process numerical data (Setyorini & Shabrie, 2020; UNICEF, 2019). Numerical skills is also related to ICT mastery for data analysis (Muhamad, 2012; Nägele & Stalder, 2017).
4	Creativity Skills (CRS)	Ability to generate new, diverse, innovative ideas (Pellegrino & Hilton, 2012; UNICEF, 2019). This skill is also related to making

		perspectives and visualizing (Salas et al., 2011; Setyorini & Shabrie, 2020).
5	Social Skills (SS)	Ability to work together and cooperatively (Pellegrino & Hilton, 2012; UNICEF, 2019). This skill is also related to adapting and living in various social situations (Nägele & Stalder, 2017; Salas et al., 2011).
6	Critical Thinking Skills (CTS)	Ability to perform analysis, information processing, and decision making (Nägele & Stalder, 2017; UNICEF, 2019). This skill is also related to research, logic, and evaluation abilities (Muhamad, 2012; Setyorini & Shabrie, 2020).
7	Business Skills (BS)	Skills to carry out a business task effectively (Marsono et al., 2017; Milanovich & Eagleson, 2014). This skill is related to managing a budget, making financial projections, and recognizing business opportunities (Bhagra & Sharma, 2018; Watson, 2003)

The transferable skills scale is made in the form of self-assessment. Researchers used a rating scale in this instrument. A description of the answer choices for each item can be seen in table 3 below.

Table 3 Response Options

No	Response	Description
1	ME	If the respondent feels very skilled in these skills and will give very satisfactory results
2	MM	If the respondent feels skilled, the result will be standard
3	IME	If the respondent feels capable of doing it but doubts the results
4	DNME	If the respondent has doubts about having this ability
5	NA	If the respondent feels they do not have that ability

The Communication Skills (CS) dimension has 7 items. The results of the first test obtained a fit factor model, with Chi-Square = 29.808, P-value = 0.008, and RMSEA = 0.079. The resulting fit model can be seen in Figure 1 below.

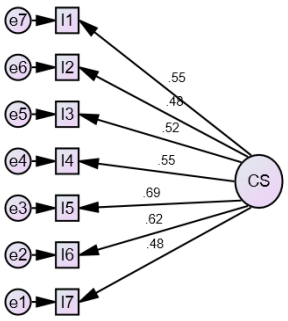

Figure 1. Fit Model of Communication Skills Dimension

The Management Skills (MS) dimension consists of 9 items. The results of the first test show that the model does not fit, therefore the covariance modification is carried out on the error item. The modification results produce Chi-Square = 40,917, P-value = 0.012, and RMSEA = 0.066. The resulting fit model can be seen in Figure 2 below.

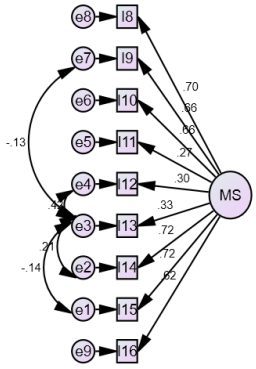

Figure 2. Fit Model of Management Skills Dimension

The Numerical Skills (NS) dimension consists of 5 items. The results of the first test show a fit model with Chi-Square = 9.850, P-value = 0.080, and RMSEA = 0.074. The resulting fit model can be seen in Figure 3 below.

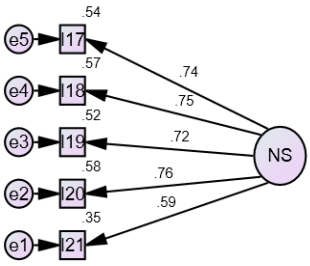

Figure 3. Fit Model od Numerical Skills Dimension

The Creativity Skills (CRS) dimension consists of 6 items. The results of the first test show that the model does not fit, therefore the covariance modification is carried out on the error item. The modification results produce Chi-Square = 7.582, P-value = 0.371, and RMSEA = 0.022. The resulting fit model can be seen in Figure 4 below.

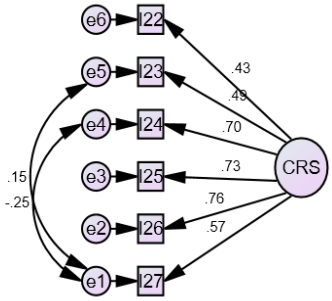

Figure.4 Fit Model Of Creativity Skills Dimension

The Socials Skills (SS) dimension consists of 6 items. The results of the first test show that the model does not fit, therefore the covariance modification is carried out on the error item. The modification results produce Chi-Square = 2.524, P-value = 0.925, and RMSEA = 0.000. The resulting fit model can be seen in Figure 5 below.

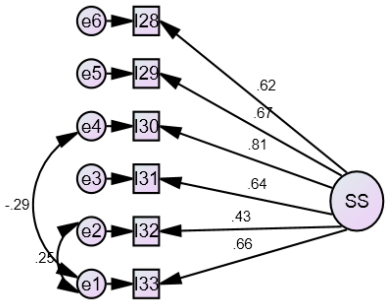

Figure 5. Fit Model Of Social Skills Dimension

The Critical Thinking Skills (CTS) dimension consists of 5 items. The results of the first test show that the model does not fit, therefore the covariance modification is carried out on the error item. The results of the modification resulted in Chi-Square = 6.773, P-value = 0.148, and RMSEA = 0.062. The resulting fit model can be seen in Figure 6 belowi.

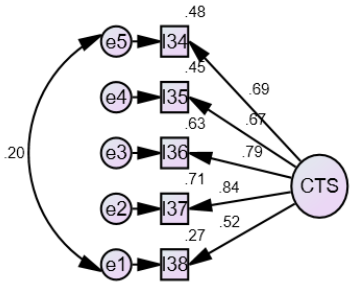

Figure 6. Fit Model Of Critical Thinking Skills Dimension

The Business Skills (BS) dimension consists of 6 items. The results of the first test show that the model does not fit, therefore the covariance modification is carried out on the error item. The modification results produce Chi-Square = 6.340, P-value = 0.274, and RMSEA = 0.039. The resulting fit model can be seen in Figure 7 below.

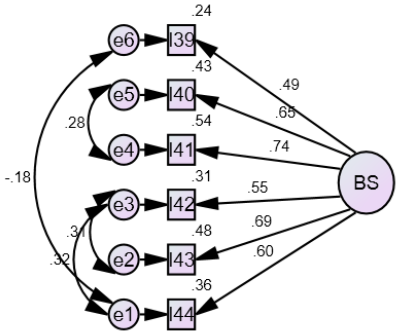

Figure 7. Fit Model of Business Skills Dimension

The test results show that the construct has good validity and a fitness model. In this study, item and dimension construction on the transferable skills scale was only able to measure one factor/dimension. However, they provide information on the level of individual abilities in each dimension of transferable skills. The scale captures the diversity of skills, knowledge, and qualities that enable people to master various challenges. (Charlotte et al., 2018).

The information generated from the construct of this instrument makes it easier for school counsellors to conduct needs assessments related to the development of skills that support students' careers. Skill

development must be part of the career guidance content. Lumley & Wilkinson (2014) state that developing the right skills and attitudes is essential for a successful transition from education to work. In line with the goal of career guidance, which is to help students understand the relevance of abilities to the requirements of expertise or skills in the field of work that is the goal of their future career (Farozin et al., 2016). Transferable skills assessment can also be the basis for developing school learning experiences (Fede et al., 2018).

The transferable skills scale is recommended for middle-grade students (e.g. class IX, XII, 5th-semester students). Transferable skills are formed because of experience, employability, and personal history. At this grade, it is assumed that students have gone through various learning experiences that affect transferable skills.

Conclusion

The Transferable Skills scale has a suitable model, which consist of aspects of 1) Communication Skills (7 items), 2) Management Skills (9 Items), 3) Numerical Skills (5 Items), Creativity Skills (6 Items), Social Skills (6 Items), Critical Thinking Skills (5 Items), and Business Skills (6 Items). The results of the CFA show that several dimensions of transferable skills require modification of the model until a fit model is obtained. The Transferable Skills Scale can provide information on the level of individual abilities in each dimension of transferable skills.

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