VALIDATION PHASE OF AN ART APP EVALUATION SCALE FOR APPLICATION IN EDUCATIONAL ENVIRONMENTS.

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INTRODUCTION

This analysis corresponds to the second phase of a university research and innovation project based on the need to develop a reliable valid, easy-to-use tool. A scale that allows educators who work the artistic competence, to determine which app can best fit the needs for the activities of their educational stage in the classroom (Caeiro et al., 2020).

Method

For this, 125 apps have been analyzed, selected after a search in different databases. They were classified according to the artistic actions that they allow carrying out (drawing, painting, modeling, animating, photographing, analyzing, perceiving ...) and thinking about its application in the classroom. Likewise, the apps and the identified processes that allow carrying out have been placed in the artistic curriculum of Primary and Secondary .

DESING

For the validation process of the instrument that initially had 98 items, three phases have been followed. At first, the total of items have been analyzed using an Exploratory Factor Analysis; after this initial analysis, a first adjustment was made through a Preconfirmation Factor Analysis with the FACTOR program (Unrestricted Factor Análisis, Lorenzo-Seva and Ferrando, v. 10.9.02, 2018); finally it was adjusted with a Confirmatory Factor Analysis (JASP v. 0.11.1, 2019) by adjusting the values of the scales with the Global or Absolute adjustment índices (Montaño Armendariz, 2014) .

RESULTS & CONCLUSIONS

The results obtained in the first phase of the project allow establishing three dimensions with four scales of artistic competence. According to experts these scales are used to measure the properties of different apps. Artistic (Expressive and Perceptive), Technical and Pedagogical. The definitive scales set are configured as follows:

1.Artistic Competition.
a. Expressive (2 factors, 14 items). Figure 1.
b. Perceptual (23 items). Figure 2.
2. Technical. (14 items) Figure 3.
3. Pedagogical. (4 factors, 23 items). Figure 4.

Table, 1. *Values estimators*

	RMSEA	GFI	NFI	CFI
Expressive Scale	0,000 [0,000-0,000]	0,995	0,993	1,000
Perceptive Scale	0,000 [0,000-0,000]	0,986	0,983	1,000
Technique Scale	0,034 [0,000-0,063]	0,972	0,938	0,992
Pedagogic Scale	0,032 [0,032-0,065]	0,941	0,900	0,972

The values obtained in the estimators reach excellent levels in RMSEA, GFI, NFI and CFI. (Table 1)
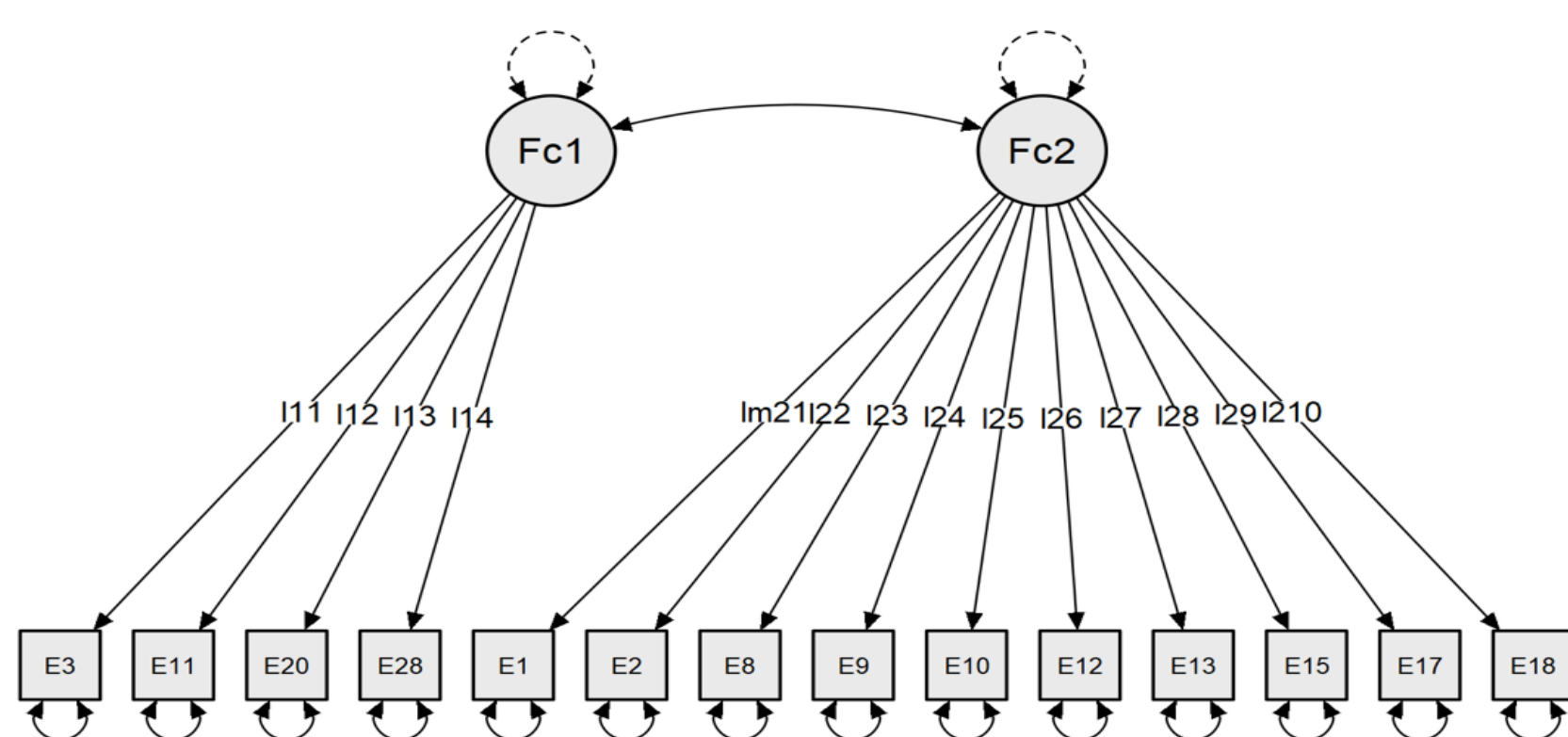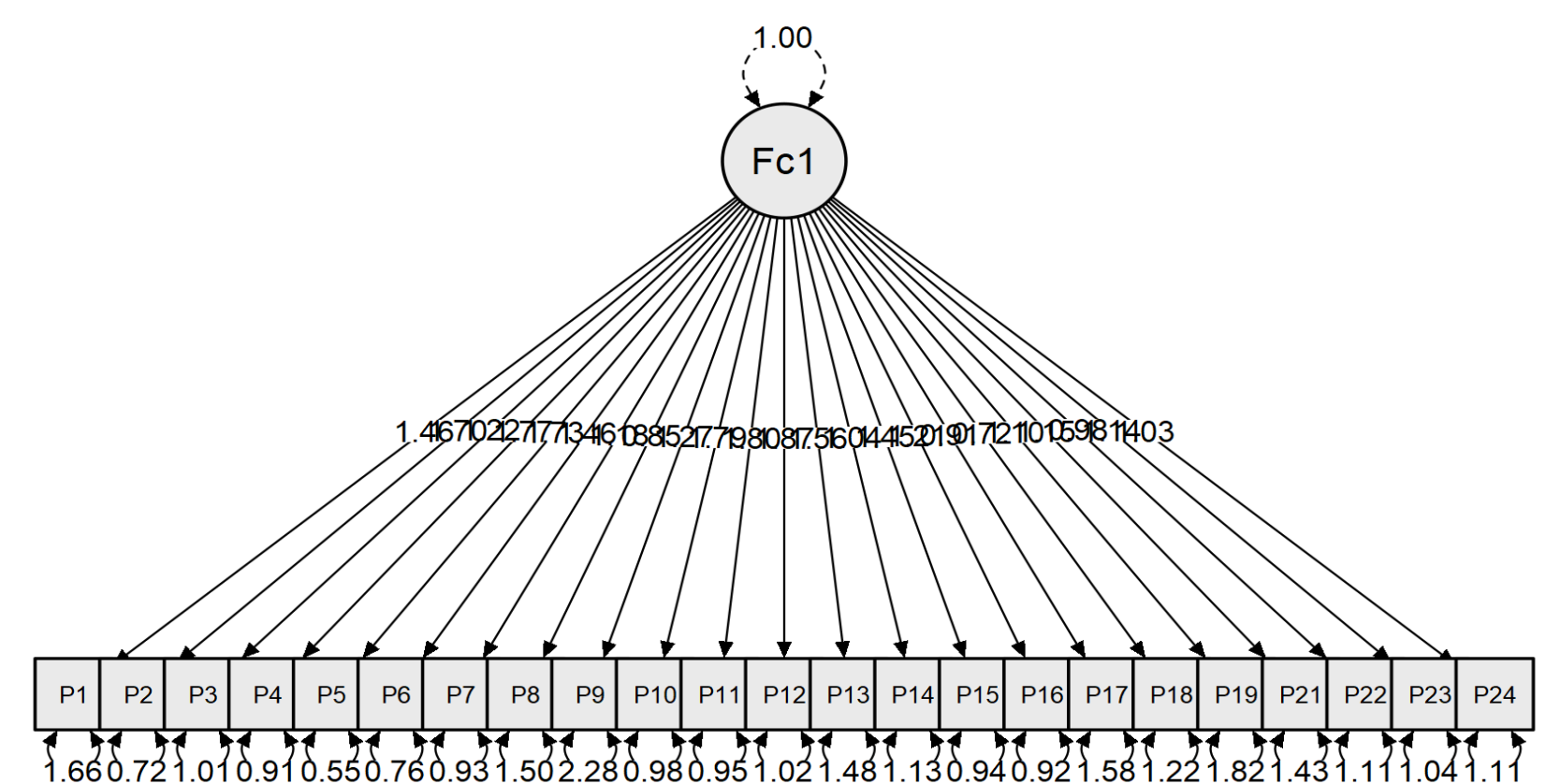

Figure 1. Model Expressive Scale. JASP program

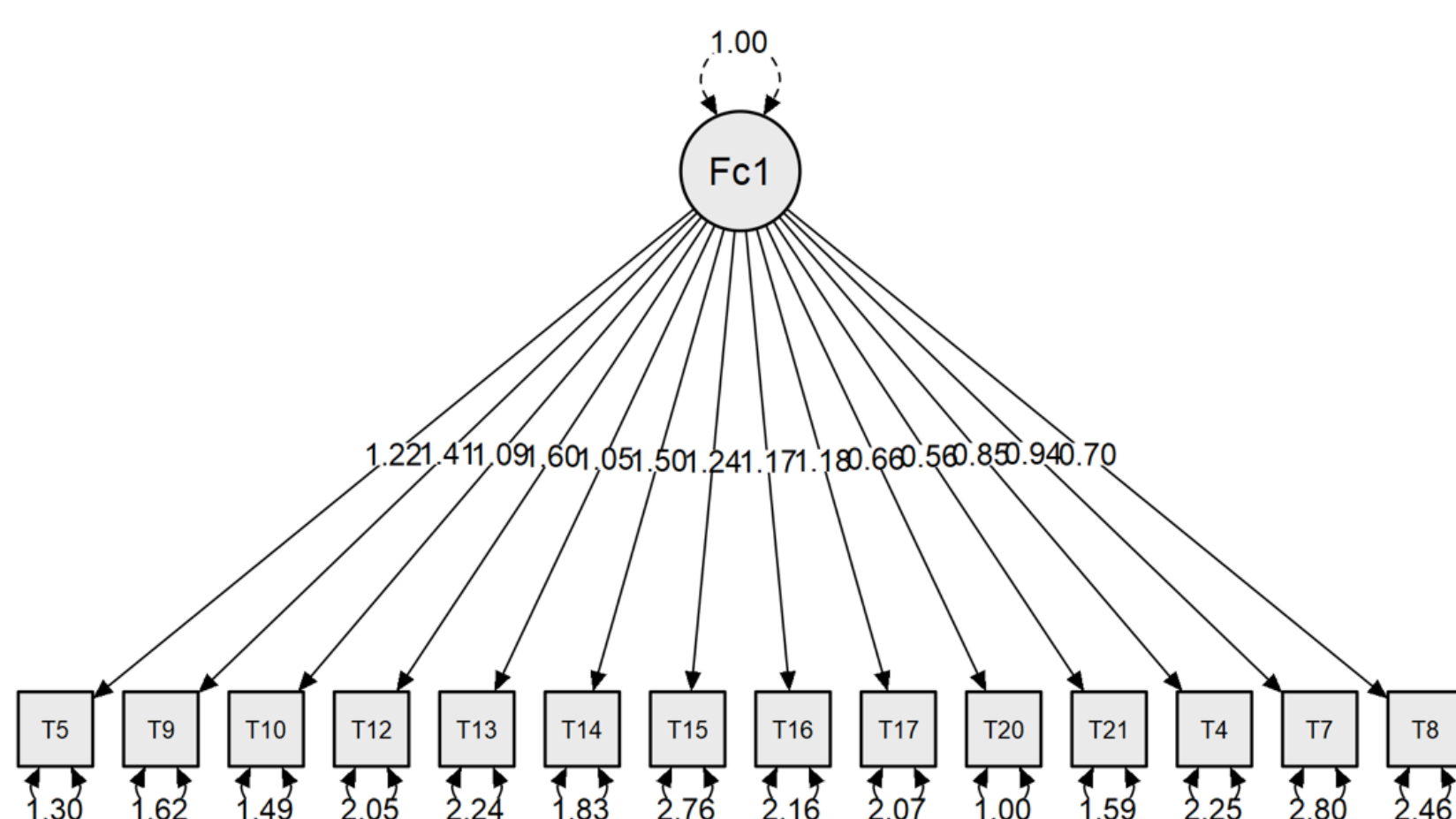*Figure 2.* Model Perceptive Scale. JASP program.

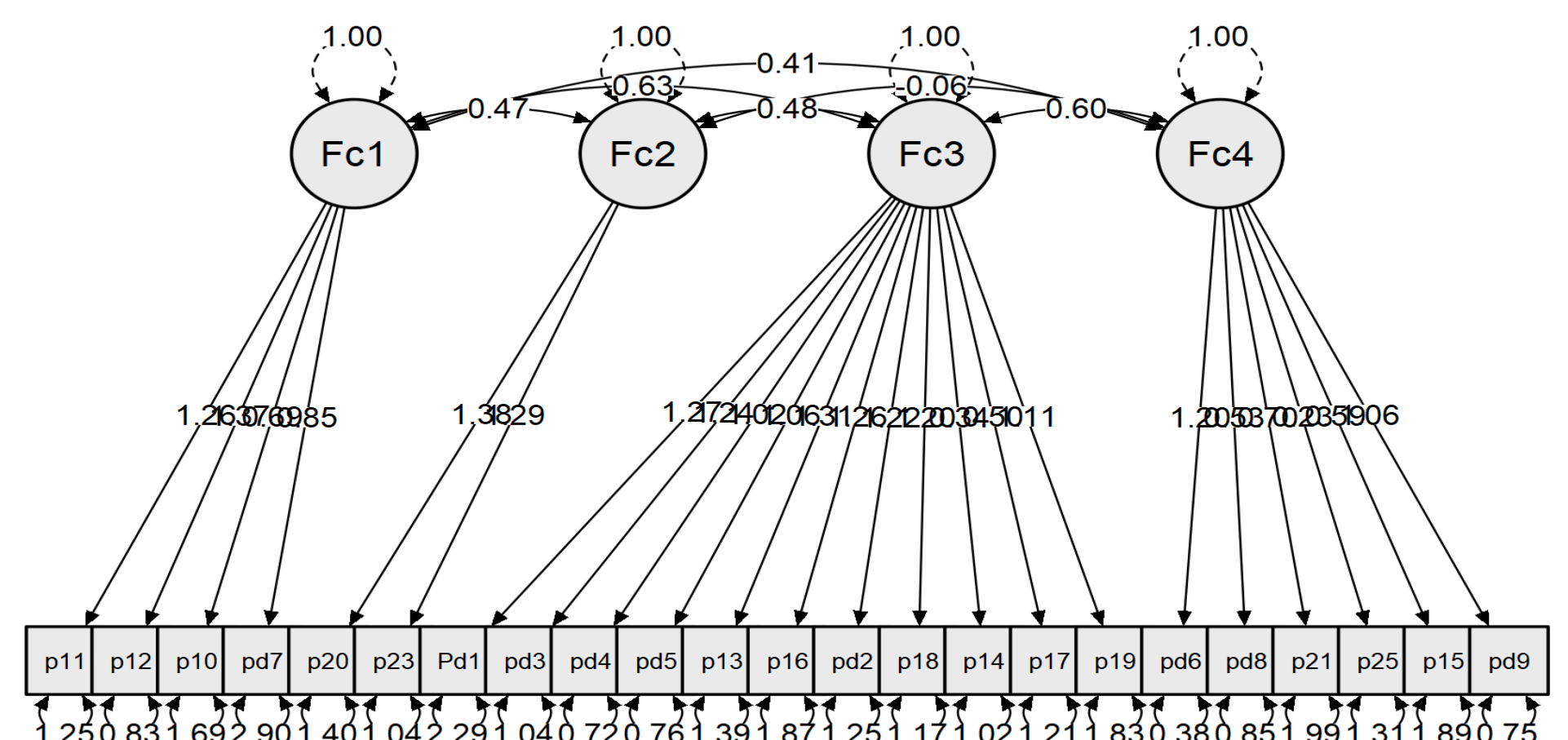*Figure 3.* Model Technique Scale. JASP program.

Figure 4. Model Pedagogic Scale. JASP program

REFERENS

Caeiro, M., Ordóñez, F. F., Callejón, M. D. & Castro-León, E. (2020). Diseño de un instrumento de evaluación de aplicaciones digitales (Apps) que permiten desarrollar la competencia artística. Pixel-Bit. *Revista de Medios y Educación, 58,* 7-25. https://doi.org/10.12795/pixelbit.74071

JASP Team (2019). JASP (Versión. 0.11.1). Computer software.

Lorenzo-Seva, U. & Ferrando, P. (2018). FACTOR Unrestricted Factor Análisis, v. 10.9.02 : *A computer program to fit the exploratory factor analysis model.* University Rovira y Virgili.

Montaño Armendáriz, M.A. (2014). *Modelo de desarrollo económico local para la diversificación de la estructura productiva y la articulación del tejido empresarial en baja California Sur.* (Tesis Doctoral). Universidad Autónoma de Baja California. Tijuana Baja California

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