# Chapter 3
# Use of the VARK Model for Students of an Undergraduate Course in Systems Analysis and Development

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## ABSTRACT

*The VARK model (visual, aural, read/write, and kinesthetic) is one of the tools to identify learning styles. This study presents the results of student performance in a Systems Analysis and Development undergraduate course after the application of the VARK questionnaire. The class was divided: half would respond to the questionnaire and perform activities tailored to their learning profile while the other half would only perform a standardized activity. In the end, everyone should answer the same three questions in order to analyze the impact of personalized learning. It was possible to see that students who performed the activity in a personalized way obtained better income than those who did not respond to the questionnaire. So, it is possible to realize that the VARK model is effective, and it is a good practice to be used in classroom because it makes the students learn better since they will perform an activity that matches their profile learning.*

# INTRODUCTION

Many studies have pointed out that different types of knowledge should be connected on the basis of proper stimulations so as to become meaningful knowledge (Knobelsdorf, 2015). Knowledge is learned, internalized and applied so as to achieve value and meaning in the situated learning context (HSU, 2017).

The history of Education in Brazil has indicated paths, roles, duties and stigmas that change over time, às society, the family and the school also change (RESENDE AND MESQUITA, 2013).

According to Ramos and Espadero (2014), high levels of failure in introductory courses in computer science, in any degree and system of education, anywhere in the world, are a subject of concern and the target of various researches. Therefore, it is necessary for teachers to keep a close eye on the teaching and learning process of these subjects. It is understood that in order to produce the best results in the learning process in these areas, it is necessary to update the teaching didactics in general (RAMOS and ESPADERO, 2014).

Learning styles refer to a range of competing and contested theories that aim to account for differences in individuals' learning (Willingham et al, 2015). According to Willingham et al (2015), these theories propose that all people can be classified according to their 'style' of learning, although the various theories present differing views on how the styles should be defined and categorized. A common concept is that individuals differ in how they learn.

Although there is ample evidence that individuals express preferences for how they prefer to receive information, few studies have found any validity in using learning styles in education (CUEVAS, 2015).

The VARK model, created by Neil Fleming, is a questionnaire that allows the identification of an individual in four possible profiles for learning preference: visual, aural, read / write or kinesthetic (FLEMING, 2019). Students can use the model to identify their preferred learning style and, it is claimed, maximize their learning by focusing on the mode that benefits them the most. Fleming's model also posits two types of multimodality (FLEMING, 2019).

When looking for ways to teach successfully, so that the majority of the class has a facility for learning, it becomes necessary to use innovative tools that are conducive to student and teacher success.

Aiming at the difficulty of students with subjects related to computer science, the objective of this chapter was to validate the use of the VARK model by means of its application with a first semester group of a course in Systems Analysis and Development at the Federal Institute of Santa Catarina, Brazil.

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