A Proposed Framework to Explore Semantic Relations for Learning Process Management

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ABSTRACT
This research argues that providing the students with the same material in different methods that correspond to their skills would guarantee their satisfaction as well as their level of success. This research focuses on the vital exploration of the suitable student learning style with respect to the student skills, the type of material and the impact of intelligent techniques. The research scope considers that students’ skills are normally varied among individuals, this variation should be considered in the learning process. The proposed approach is based on the successful migration of different data across the components and a formal description of this data was presented to clarify the homogenous transformation according to the applied steps. The proposed framework has been applied on a set of students and the results revealed to a raise in the students’ performance represented in their grades and their satisfaction level.

KEYWORDS
Association Rules Mining, Knowledge Discovery, Learning Process, Learning Styles, Semantic Relations

INTRODUCTION
Skills usually vary between different persons, each has his own strengths and weaknesses (El Seddawy, Sultan, & Khedr, 2013). Therefore, looking at the students with the same perspective by providing them with the educating material and conducting the exams in the same presentation and evaluation method clearly hinder these skills (Mostafa, Khedr, & Abdo, 2017). Looking at higher education as a business field would provide a clearer vision to the required target including preparing the leaders of the future (Abdel-Fattah, Khedr, & Nagm Aldeen, 2017). It is not only about educating, but it also a matter of exploration, a person needs to explore his capabilities and then he will have the ability to apply them in different targets (Ahmed, Khedr, & Kholeif, 2019). In addition, that education is currently one of the business fields represented in the private universities, education and business are clearly interconnected fields (Sultan, Khedr, & Kholeif, 2017; Darwish, Khedr, Badr, & Omran, 2015; Sharaf Eldin, Khedr, & Al-Sharif, 2015). Exploring the student skills is a multidisciplinary

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objective to be beneficial in both the education process and in the student’s future career (Idrees & Ibrahim, 2018). This research focuses on exploring the student skills and applies this exploration on the educating process starting from the lectures, practical sessions, all through the exams (Khedr, Idrees, & Elseddawy, 2016). The research argues that providing the students with the same material in different methods that correspond to their skills would guarantee the success rate and raise their satisfaction as well as their level of success (Haggag, Khedr, & Montasser, 2015; Khedr, Kholeif, & Hessen, 2015; Khedr, Kholeif, & Hessen, April 2015).

Focusing on the students’ skills has been discussed in different research (Khedr & Idrees, 2017; Khedr & Idrees, 2017) with focusing on the corresponding learning style for these skills. Learning styles approaches aimed at considering the student ability to remember and deduce as well as the nature of dealing with the surrounding environment and relating these parameters with the teaching and evaluating method (Khedr & El Seddawy, 2015; El Seddawy, Sultan, & Khedr, 2013). For example, the student who usually like to read stories most likely will be able to understand written information in high rates (Khedr, 2012). It is crucial to correctly determine the suitable style for a person in general and a student in specific as students naturally have different skills with different percentages of preference and strength, therefore, in addition to realizing the student main skill, other skills should be considered (Khedr, Nasr, & Amin, 2014; Kaminska, 2014).

Different research studies by different authors have considered the student skills in many perspectives including determining these skills and relating them with the suitable learning method (Sullivan, Colburn, & Fox, 2013; Lagud & Rodrigo, 2010). However, most of these studies depended on the questionnaires (Dobson, 2010; Farkas, Mazurek, & Marone, 2015) and the direct student contribution of selection. Different obstacles have also been arisen such as the lack the applicability due to the population and the educating preparatory material. These studies have reached two main directions of the students’ skills dependencies, cognitive and psychological, which have a high impact on the student personality. Looking beyond education, the claim that nature normally vary among the parties in any field has been previously discussed and confirmed in many situations, education field parameters also vary in nature. Therefore, the current research considers the educating parameters including the students” skills, teaching material, student perspective, exams questions in a homogenous framework for harmonic cooperation to explore the best learning style for the student. This research focuses only on the learning style exploration as part of a structured set of research to provide a whole wide view of a successful education system. (Hazman & Idrees, 2015; Mohsen, Hassan, & Idrees, 2016; Khedr, Idrees, Hegazy, & El-Shewy, 2017).

Learning styles can follow two main models, cognitive and psychological models (Shah, Ahmed, Shenoy, & Shrikant, 2013). Different approaches follow these models such as: Multiple Intelligence Theory (Katie, Christodoulou, Seider, & Gardner, 2010; Helmy, Khedr, Kolief, & Haggag, 2019), Kolbs Learning Styles (Kolb & Kolb, 2012), Honey and Mufford (Papadopoulos, Demetriadis, Stamelos, & Tsoukalas, 2010), Grasha (Grasha, 1996), The VAK (Moayyeri, 2015) and VARK (Ghaedi & Jam, 2014) (Surjono, 2014) learning styles. This research focuses on three approaches namely Multiple Intelligence Theory, Honey and Mufford (Papadopoulos, Demetriadis, Stamelos, & Tsoukalas, 2010), and VARK (Ghaedi & Jam, 2014; Surjono, 2014) learning styles. The learning styles were selected according to the research in (Hassouna, 2018) which clarified that these are the most commonly used styles.

LITERATURE REVIEW

Previous studies considered focusing on product suitability are in a wide range in different fields such as in purchasing (Idrees & Ibrahim, 2015; Idrees, Ibrahim, & El Seddawy, 2018; Othman, Hassan, Moawad, & Idrees, 2018), cultivation (Azhary, Idrees, & Rafea, 2002), medical (Hazman & Idrees, 2015; Khedr, Kholeif, & Saad, 2017; Taie & Idrees, 2015), e-commerce (Sultan, Khedr, & Kholeif, 2017), business (Khedr & Borgman, 2006), and societal aspects (Mohsen, Hassan, & Idrees, 2016;
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www.igi-global.com/article/exploiting-asynchronous-discussions-class-improving/73660?camid=4v1a

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