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## **IMPACT OF CAREER GUIDANCE IN LEARNING IN RWANDAN TVET SCHOOLS USING DATA MINING TECHNIQUES**

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### **ABSTRACT**

Data mining often helps to mine the original and the valued data from the huge amount of dataset. In Rwandan TVET (Technical and Vocational Education and Training) schools, trainees choose the career in the way they want without being guided on how to choose a relevant career. This leads some trainees to poor learning performance. This study assesses the impact of practicing career guidance by comparing trainees with career guidance and trainees without career guidance in TVET schools in Rwanda. In this condition, the classification method of data mining techniques was useful in this research in decision making. This research analyzed data by using a decision tree algorithm called Iterative Dichotomiser3 (ID3). The result from the research shows that trainees with career guidance perform better than trainees without career guidance.

**Keywords: career guidance, Impact, learning**

## 1. INTRODUCTION

Guidance generally means “services and activities intended to support individuals, of some age and at some point through the lives, to make learning, training and occupation choices and to manage their careers (Watts, A.G,2013). Kavumu TVET School is a public institution that offers hands-on skills. Even if new trainees are enrolled in various trades every year, they are hardly guided about the career that they would like to become, the trade that they choose and the linkage between the occupation and career this is likely to result in poor learning performance because their study does not fit with their career goal or aptitude. More importantly, this can cause in their drop out in the middle of study because they do not want to continue their study that is not related to their career goal or aptitude. Even in the case that those trainees graduate without drop-outs, many of them remain jobless in the labor market. Therefore practicing career guidance is significant, not only, to provide an effective learning process, but also to employability in the labor market because linking finding career goals and studying appropriate trade is likely to improve the learning performance and employability.

## 2. Research Elaborations

### 2.1 Literature Review

Sultana (2017) conducted research on career guidance aimed to improve career guidance for young people, due to a significant number of young people leave school early, without qualifications. They want a program in the community to support them make changes to the working world and to re-engage with more learning and career guidance needs to be a portion of such a program. Career guidance also needs to be a stronger part of the program within the school designed to prevent early leaving. This was based on Europeans countries.

According to James A. Athanasou, et al (2018),” did research on career guidance, it was designed to support the improvement of career guidance in the years to come. Working for over four years from Belgium and Australia, the researcher tried to bring together a collected works that summarizes the different aspects of career guidance. It is a synthesis of the field of career and vocational guidance firstly for an intercontinental readership and secondly, it is intended to act as a reference for academics, researchers and professionals in the expanding field of career development.

Watts, A.G (2013) conducted a research on career guidance focused on Career guidance is not only to support the individual’s empowerment and choices for the future but also supports the achievement of public policy goals in the labor market, furthermore, to support an additional pertinent and effective education and vocational training system. The demand for career guidance and

related capacity building services worldwide has been in increase. Career guidance is basically about navigation though a lifespan where uncertainty is high and there are several milestones where we need to decide which way to go. In previous works did not assess the impact of career guidance in learning in this research will be assessed the impact of career guidance in learning in TVET schools.

## 2.2 Observation

Observation is one of the methods for collecting primary data. It enables the researcher to select a way of watching and understand the interaction that is taking place in learning where the learning performance for trainees with and without career guidance observed in learning to examine the impact of career guidance. This technique dominant in qualitative research (Ranjit Kumar, 2011).

## 2.3 Interview

The researcher conducted face-to-face interviews, where the learning performance for trainees with and without career guidance interviewed to assess the impact of career guidance in the learning process.

## 2.4 Data analysis

Data of fifty-four with career guidance in their learning and without career guidance in their learning were collected in different learning performance in ICT trade level 3 and level 4, therefore those data were systematically analyzed using Weka software, MS Excel spreadsheet application. After the analysis is done it shows that trainees with career guidance perform well in learning than the trainees without career guidance

### Table of variables

Attribute	Description	Possible values
Age	Age of trainees	Middle, young
Sex	Sex of trainees	Male and female
Level	Trainees level	Level 3 or level 4
Career guidance service	career guidance service status	Yes or No
Dept	Department where trainees belongs to	ICT
Performance	Trainees performance in learning status	Success or Fail

Table 2: variables used.

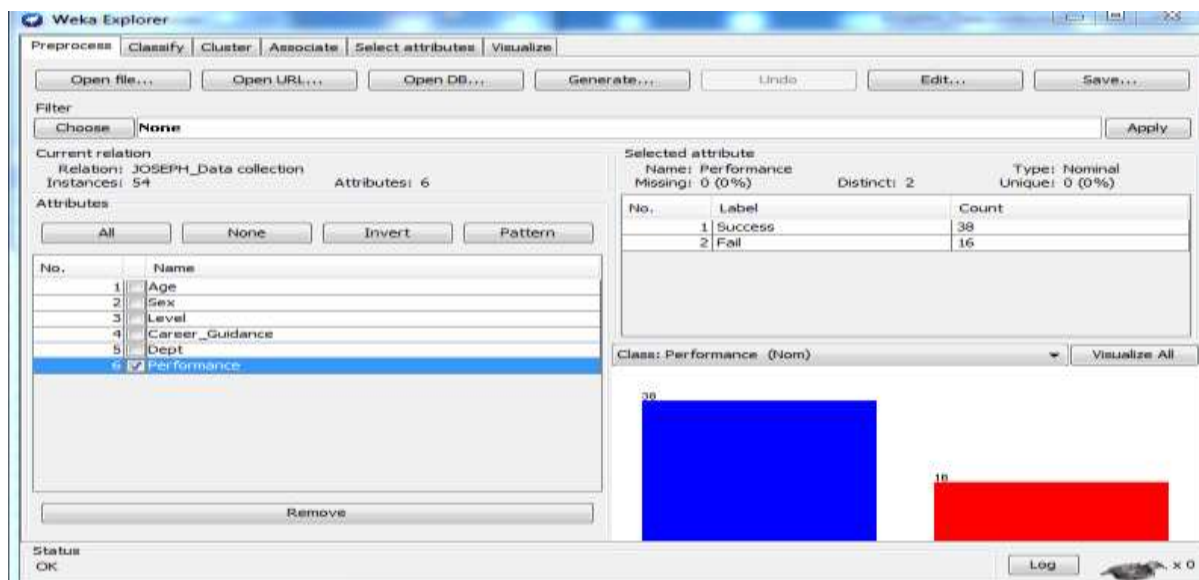


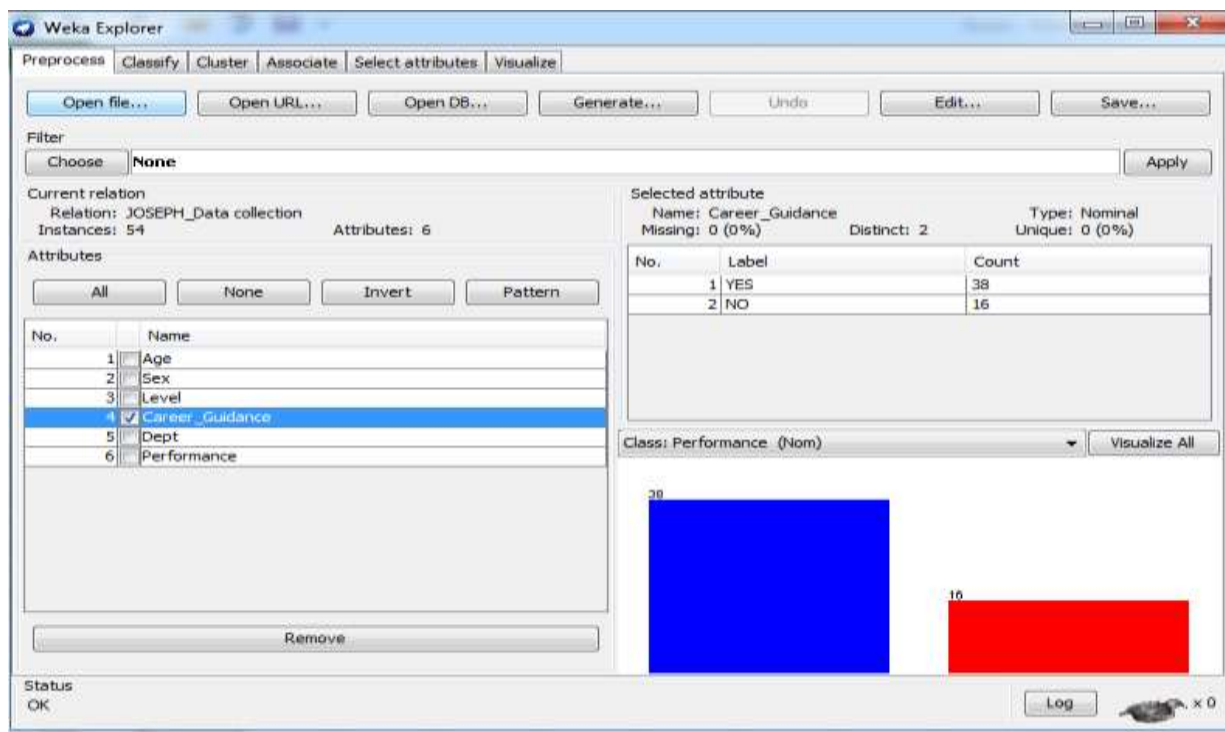
Figure: trainees' performance (in general)

#### 4. Presentation of results or findings

In this section, the researcher identifies the findings of the study through a systematic presentation of the data, analysis, and interpreting the data collected. The data were examined and interpreted keeping in mind general and specific objectives and the purpose of the study.

##### 4.1 Learning without career guidance

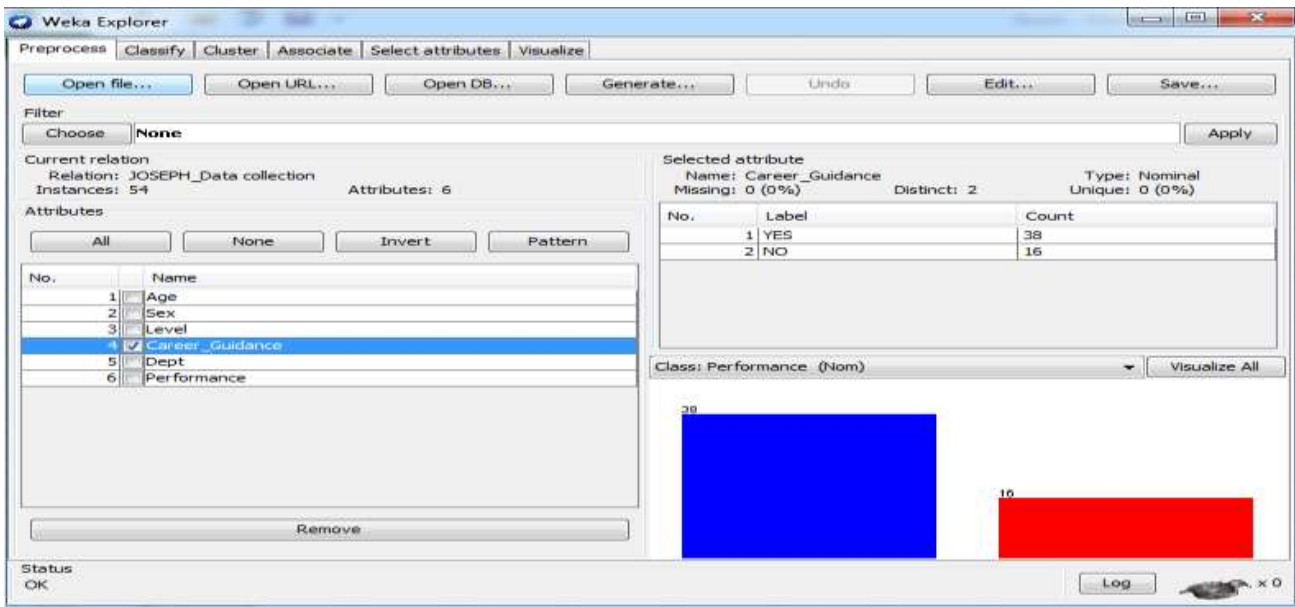
The research presented with the following findings: Only 16 trainees corresponding to 29.6% of trainees accepted that never received career guidance, and trainees' learning performance is 29.62% ( those who could score below 59%), 29.62% they made career choice based on personal decision and parental influence, respectively. This happens especially when there is no correct system laid down to support in providing guidance and counseling services. That is the reason why some of the learners perform poorly in their learning.



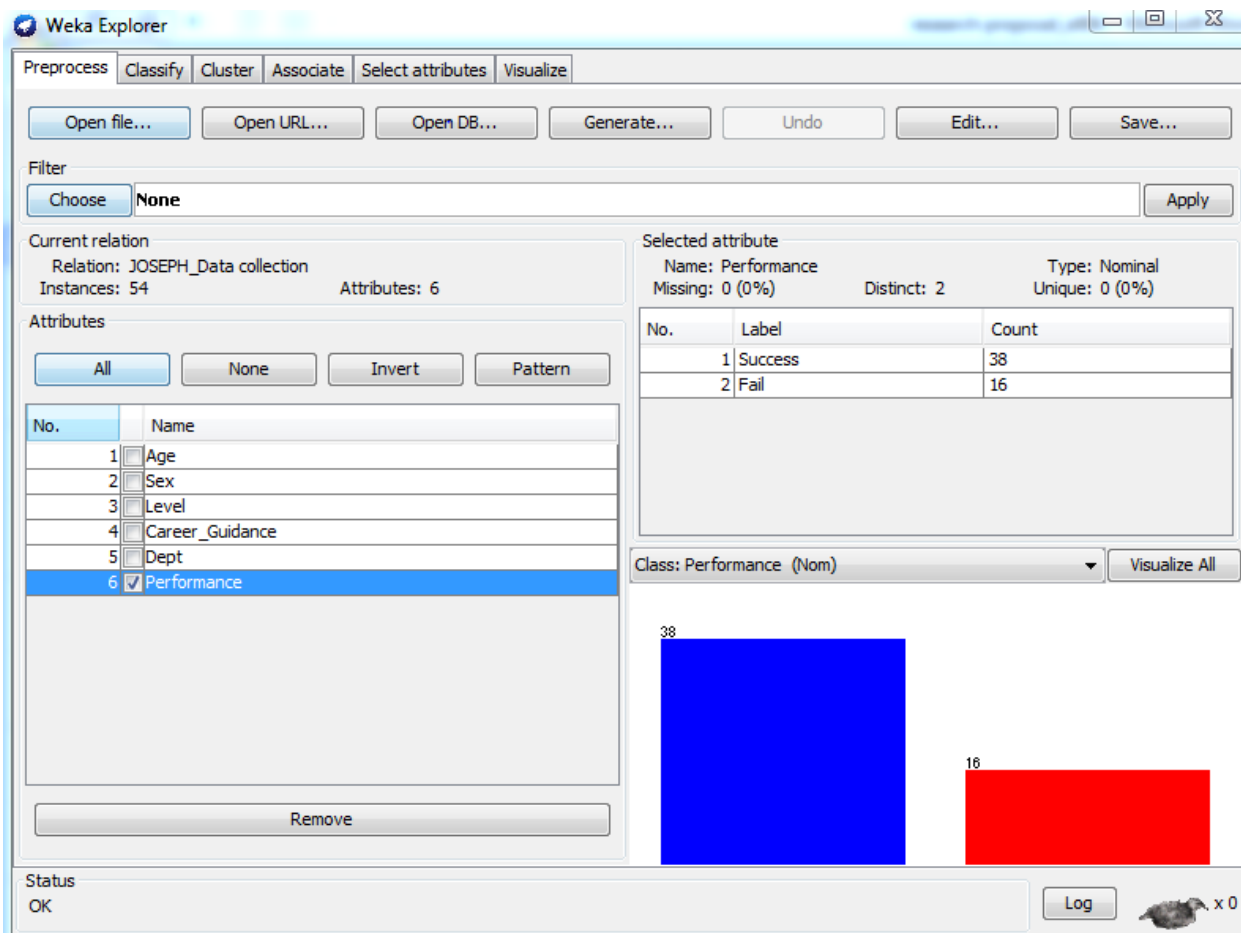
**Figure3:** Trainees not received career guidance in red color (16)

#### 4.2 Learning with career guidance

Based on analyzed data found that the students with career guidance perform well in learning from all fifty-four interviewed trainees. The study came up with the following findings: Only 38 trainees corresponding to 70.4% of trainees accepted to have received career guidance, and trainees' learning performance is 70.3% (those who could score 60% and above), Career guidance services are provided to 70.37% in Kavumu TVET school and trainees are assisted them in making educational choices, to apply knowledge and skills, in exploring of career opportunities and being informed about different professions that are available.



**Figure:** Trainees received career guidance service in blue color (38 trainees)



**Figure5:** Performance of learners (blue means success, red color means failed)

Performance (success) of trainees with career guidance in blue color (38 trainees) performing well in learning and 16 trainees in red color failed in learning due to different factors.

Therefore, it was very clear that trainees who received career guidance services benefited from them and their performance was quite good. That is how this was implied in this research.

#### **4.3 The impact of career guidance in learning**

Career guidance plays a main role in helping labor markets work and education systems meet their goals. It also encourages equity recent: evidence proposes that social mobility relies on wider gaining not just of knowledge and skills, but of an understanding about how to use them (OECD, 2003).

Effectiveness of learning process, the trainees perform well in all learning activities, improving decision-making skills when they choosing the career, other impacts: Increasing self-esteem and motivation, Building interpersonal effectiveness, Maximizing career opportunities, Teaching labor market variations and difficulty of the workplace, Broadening skills, knowledge, and abilities, Refining employment marketability and opportunities, Promoting effective job assignment, Strengthening manager relations. Improve initial and continuing training

#### **5. Conclusions**

The intention of this research was to assess the impact of career guidance in learning. It was conducted in TVET School named Kavumu TVET School in Nyanza District. Amongst 54 trainees responded from the target trainees. The literature review highlights the previous related works about career guidance. The results show that there is a significant impact of career guidance services on trainees' academic performance. The research shows that 38 trainees with career guidance services succeed in their subjects.

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