MODELING TEACHER'S INTEGRITY USING DATA MINING

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ABSTRACT

Integrity is a concept of consistency of actions, values, methods, measures, principles, expectations and outcomes. In school, integrity is an important criterion for teachers. With high integrity characteristic, the teachers will enable to manage class excellently, encourage students in teaching and learning activities and able to complete task given by administrator on time. However there are reports that some teachers unable to perform their tasks in classroom efficiently. Researcher indicated there are many factors can affect teacher's integrity. Thus, the aim of this study is to develop a model for teacher's integrity using data mining technique. To obtain this, a dataset from a survey conducted by Pejabat Pelajaran Daerah Langkawi is taken as case study for the model construction. The dataset called teachers's integrity dataset contain 1500 records elaborates with 25 attributes including a target class were pre-processed and then mined using directed association rule mining algorithm namely Apriori. The mining result shows that out of 25 characteristics, only 8 influence the teacher's integrity which leads to the construction of the teacher's integrity model. The teachers must follow the rules and procedures, Understand the consequence, not use the facilities for personal purposes, never manipulate organization's information, never make false statement, honest in promotion, open to receive admonition and advice and accept anyone to be head of department are the factors that can influence teacher's integrity. Then, a prototype for classifying teacher's integrity was developed based on the model. This finding can be a guideline for the Pejabat Palajaran Daerah Langkawi to plan strategies for next generation teachers.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Integrity is very important component for teachers in school to create successful and excellent in teaching and learning activities. Integrity teachers can manage classroom and apply all teaching methods for the students. They also can manage all tasks that given by administrator.

According to the king of Selangor (2008) teachers must uphold the highest integrity and be good role models to their students at all times. As teacher, their responsibility towards students is not limited during school hours but endlessly continued after the class end. More time should be spent in guiding the school students as they may be facing identity, personality and cultural crisis outside the school.

Students need a good role model to follow in order to be a good human. Beside the parents at home, teachers are the nearest person who can be an example for students. This study has been done in school by getting data from the students. The result shows that the students firstly close to the parent and secondly close to their teachers. Sometime, students make their teachers as idol. Therefore, teachers must have a good moral quality. For the reason to attract students to behave nicely, teachers must have a quality mind and good attitude to impress student. Good quality teachers must be able to target and plan how to manage students becoming good quality students (Baker, 1990).

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REFERENCES

Azam Ahmad. (2010, July 03). School teacher suspected rape 16 years old student. *The Star*, Retrieved 5th July 2010 from www.thestar.com

Baker. J. (1990). *Nobody's Perfect, But You Have To Be: The Power of Personal Integrity in Effective Preaching*, New York: Mc Graw-Hill

Beal, C. R. & Cohen, P. R. (2006). Temporal Data Mining for Educational Applications. *Proceeding of International Workshop on Applying Data Mining in e-Learning (ADML'06). pp. 3-12.*

Beikzadeh, M. R. & Delavari, N. (2004). A new analysis model for data mining Congress. pp. 1-16. *Distance Education Courses.*, Finland: University of Joensuu

Fomby, T (2008). Market Basket Analysis. *Proceeding of OCLC Systems & Services.* University of Joensuu, Finland 15(2), pp. 81-90.

Hamalainen, W., Laine, T. H. & Suitinen, E. (2004). Data Mining in Personalizing. *Proceeding of Educational Data Mining Workshop.* Marina Del Rey, CA. USA. pp. 40-49.

Han .J & Kamber.M (1998) *Data Mining: Concepts and Techniques*, Simon Fraser University *ITHET.* MMU, Cyberjaya, Malaysia. pp. 5-8.

Jeffery, L & Lonnie, D. (1998). *System Analysis and Design*, (4th edition). New York: Mc Graw-Hill

Kamarul Hassan (2010, April 10) Guru Sekolah disyaki Merogol Pelajar Tingkatan 2. *Utusan Malaysia*. Retrieved 5th July 2010 from www.utusan.com.my

Kedah, Pejabat Pelajaran Daerah Langkawi. (2009). *Teacher Discipline Documentation Year 2009.*

Luan, J. (2001). Data mining as driven by knowledge management in higher education: Oxford. Persistence clustering and prediction. *Proceeding of Keynote for SPSS Public Conference, UCSF.* pp.1-16.

Nillsen, R.(2004). *The concept of Integrity in Teaching and Learning*, Symposium on Promoting Academic Integrity, held in Newcastle NSW from 24th-25th November 2004.

Popper, K. R. (1983) Objective Knowledge in higher educational systems processes. *Proceeding of 5th international conference,* University of Sydney, Australia. pp. 60-69.

Raghavan, V. & Hafez, A. (2000). *Dynamic Data Mining.* University of Louisiana, USA. pp. 10.

Robinson, H. (2000). *The Power Of Personal Integrity in Preaching.* Gordon-Conwell Theological Seminary.

Seifert, J. W. (2004). Data mining: An overview. *Proceeding of CRS Report for Congress.* East Lansing, USA. pp. 1-16.

Tanimoto, S. T. (2007). *Improving the prospects for educational data mining.* Pp. 1-6. *The KDD Process for Extracting Useful Knowledge from Volumes of Data,* COMMUNICATIONS OF THE ACM November 996/Vol. 39, No. 11.

The Star (2008, April 29). Sultan wants teachers with integrity. *The Star.* Retrieved 17th July 2010 from www.thestar.com.

Thornton, M. (2004), *Working with Integrity*, Code Of Business Product, BhpBiliton. Retrieved 1st August 2010 from www.bhpbilliton.com.

Usama, F, & Gregory, P. S & (1996). The *KDD Process for Extracting Useful Knowledge from Volumes of Data,* Communication of ACM November 1996/Vol. 39, No. 11