

Mustamin, Muzammil MA. (2012). Using concept mapping to build concept the competence of school principals. *Journal of Education and Learning*. Vol.6 (4) pp. 215-222.

## Using Concept Mapping to Build Concept the Competence of School Principals

Mustamin<sup>1</sup>

Universiti Teknologi Malaysia

M. Al Muzammil bin Hj. Mohd Yasin<sup>2</sup>

Universiti Teknologi Malaysia

### Abstrak

Paper ini mencoba mengembangkan konsep kompetensi kepala sekolah dengan menggunakan konsep mapping, dengan isu yang mendasarinya adalah pandangan dari pelbagai konsep kompetensi kepala sekolah telah mengakibatkan dua kondisi, yaitu; (1) pengembangan konsep dapat saling memberikan dukungan dan saling melengkapi; dan (2) pengembangan konsep tersebut juga bisa mengakibatkan kepada kontradiksi dari sudut pandang yang berbeda. Oleh itu, hal ini yang menjadikan dasar isu pada paper ini untuk mengidentifikasi konsep kompetensi kepala sekolah dari beberapa referensi dengan menggunakan konsep mapping khususnya adaptasi konsep mapping dari Jackson-Trochim. Hasil yang diperoleh adalah terdapat tiga dimensi kompetensi yang diperlukan oleh kepala sekolah, seperti kompetensi memimpin sekolah; kompetensi memimpin pengajaran; dan kompetensi memimpin operasional. Berdasarkan hasil itu, maka konsep kompetensi kepala sekolah dapat dijadikan sebagai salah satu rujukan untuk membangun konsep kompetensi di masa yang akan datang.

### Abstract

This paper attempts to develop an extended concept the competence of school principals by using concept mapping, based on issues are the competence concept of school principals have an impact on two conditions, namely: (1) to develop the concept can complement and support each other; and (2) to develop the concept of possible contradict, giving rise to different interpretations. Therefore, this becomes the main issue researchers to identify the competence concept of school principals with adaptation of Jackson-Trochim method that is capable of illustrating the concept of competencies. Results of adaptation Jackson-Trochim method that school principals should have three types of competencies to lead the school effectively and efficiently. Kind of competencies are such as school leadership, instructional leadership, and operational leadership. Based on these results, the adaptation of Jackson-Trochim method to build the competence concept of school principals suggests this concept obtained may serve as a reference for school principals continue to build competencies in the future.

Keywords: Concept mapping; school principals competence; school leadership; instructional leadership; operational leadership.

---

<sup>1</sup> Mustamin, Department of Management and Administration, Faculty of Education, University of Technology Malaysia

E-mail: [mustamin\\_smanImaros@yahoo.co.id](mailto:mustamin_smanImaros@yahoo.co.id) or [mustaminutmjohor@gmail.com](mailto:mustaminutmjohor@gmail.com)

<sup>2</sup> M. Al-Muzammil bin Hj. Mohd Yasin, Department of Management and Administration, Faculty of Education, University of Technology Malaysia (UTM).

E-mail: [muzzutm@gmail.com](mailto:muzzutm@gmail.com)

## **Introduction**

Concept mapping method that uses words as the unit of analysis has been widely used in inductive qualitative research. According to Carley and Palmquist (1992); Carley and Kaufer (1993), the concept mapping is a good alternative method for analyzing the natural meaning of a word in the text. The same opinion by Jhen (1995) that a qualitative study seeks to validate and analyze the thematic content. Meanwhile, Novak and Gowin (1997); Novak (1998) revealed that the concept mapping the natural meaning of language is embedded in the structure that represents the meaning of the text.

Method used in public education is essentially an informal process, where an interesting illustrate of researchers from all ideas associated with several common themes or statements and show how it can be related. Ryan and Bernard (2000); Mohammed et al. (2000) revealed also that this method has the strength of using. One of the many methods used concept mapping is a method of Jackson-Trochim (2002). According to Jackson-Trochim that this method has strength to identify relationship between concepts (the units of analysis) and prepares the relational structure, so the concept of this mapping is a method of an integrated approach of a specific concept mapping method. But more, the weakness of this method is that while fixing the code is highly influenced by the perceptions of respondents, the use of computer programs cannot interpret the meaning of symbols as a whole.

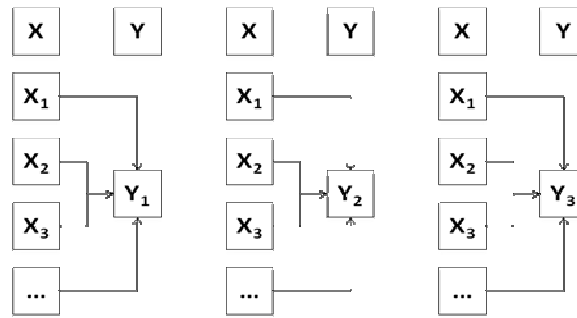
## **The competence of school principals**

At first word refers to the word leadership competencies skills shown by a leader in the attitudes and behavior related to work carried out, this as disclosed by Barnard (1938) in Boyatzis (1982) that successful leadership depends on the competencies possessed to improve organizational performance led. Drake and Roe (1986), built five skills that should be owned by the principal as the educational leader of the conceptual skills; human skills; instructional skills; technical skills and cognitive skills. Meanwhile, Katz (1993) divides the competency manager in three parts, such as conceptual skills; human skills and technical skills. Gilbert (1996) view and believe that the competency has a role as a function of performance to produce a good product with the support of the work environment and individual behavior in a particular field. The same thing is expressed by Herling (2000) that human competence is related to membership and can be defined as behavior that appears in a specific domain in the form of action consistent implementation and effective results.

On the other side of the support given to principals in the form of management are not enough for the effectiveness of the organization is headed, without trying to implement his duties as a leader. This is as disclosed by Mahmood (1993), principals who only carry out his duties as an administrator is not sufficient for effective school leadership, but the principals should be the leader of the school. Meanwhile, Hallinger and Heck (1998) has studied the impact of the leadership of school principals from 1980 to 1995, the study concluded that school principals have an indirect impact on the performance of students, but with support from teachers. According to Owens (2001) that, school leaders must have the competence to develop the theory and practice of referring to what is known about organizational behavior in education. Meanwhile, Davis et al (2005) revealed that concerns about the quality of the leadership of school principals present form due to the basic competencies of those who are still weak and lag time, the knowledge of education leaders to develop effective and efficient schools is not enough. Therefore, the leadership still needs to be trained and developed his ability in accordance with the development challenges faced by this time reinforced by reports. According to Bartlemen et al. (2007), that school principals only 23 hours each week to interact with students and other times for the management of the school in general. But should, according to Leithwood et al. (2007) task of school principals must be oriented to the school teachers or staff, and student performance as a major concern.

## **Methodology of the study**

Based on the purpose of this study, the concept of competency-built school principals adopting methods of Concept Mapping (Jackson & Trochim, 2002), the method used described as the figure below:



**Figure 1. Description of Jackson-Trochim adaptation method**

In which X is the unit of analysis based on the document the Ministry of Education Malaysia (2008); Florida Department of Education (2008) and documents of the Ministry of National Education Indonesia (2007), and Y is a group that founded the concept of divide competence literature review of three groups of school principals ( $Y_1$ ;  $Y_2$ ; and  $Y_3$ ). Thus, further according to Jackson-Trochim stages of analysis used, as follows: (1) create a research unit of analysis, (2) select conceptual analysis comes from a variety of experts, (3) to do the mapping concepts from previous levels; (4) create group concept mapping results, and (5) to create labels or dimensions of the concept of clusters.

### Analysis of the study

Adaptation Jackson-Trochim methods used as the following steps: **Step 1:** create a unit of study analysis. In this step the researcher makes a list Descriptors, by numbering 1 to 123 units of analysis that have been identified from the three documents that have been mentioned. **Step 2:** a thorough mapping of the concept. In this step the researcher to do the selection process mapping concept as feeders, the feeders created from various reference groups as the unit of analysis with a similar meaning of the verse. For interest, the researchers divided the three groups the concept mapping task orientation theory-based school principals Leithwood et al. (2007) namely: (1) the concept of competency mapping of school principals in school leadership theory and refers to findings from a variety of experts follows: Edmonds, 1979; Scheerens & Bosker, 1997; Hallinger & Heck, 1998; Waters et al, 2003 ; Leithwood et al, 2004; Davis et al, 2005; OECD, 2005; FDoE, 2008; and Dagget, 2009; (2) the concept of competency mapping of school principals in terms of teaching leadership theory and refers to findings from a variety of experts follows: Hallinger & Murphy, 1985; Hopkins & Murphy, 1987; Scheerens & Bosker, 1997; Hallinger & Heck, 1998; Ovando & Ramirez, 2007; FDoE, 2008; and Hallinger, 2009; (3) the concept of competency mapping in terms of school principals operational leadership also refers to the theory or the study of the following range of specialist Hersey, 1984; Mauriel, 1989; Goleman, 1995; Humphrey, 2002; Glanz, 2006; FDoE documents, 2008; and CSB, 2008. **Step 3:** make the concept mapping analysis. In this step the researcher to analyze the concept of mapping a way to format with size 123 x 3, which means that 123 lines of the analysis unit to be mapped to the third column the concept of clusters as in step 2 above, namely School Leadership (KS): Instructional Leadership (KP), and Operational Leadership (KO). Each cell is given the value (1), which means there is a tendency the same meaning, and value (0) which means there is no tendency of the same meaning. **Step 4:** choose the final cluster solution. In this step the researchers chose each number in the unit of analysis in the concept mapping group list. According to Jackson and Trochim (2002), it is important to note that the decisions made at this step illustrates how the mapping is determined by analysis of the concept and not a policy carried out by researchers. **Step 5:** The labeling of each group. In this step, researchers compiling the label of each batch into a number of dimensions of competency-based label that is used to document the dimensions of the Ministry of Education Malaysia's competencies, Florida Department of Education, and Ministry of National Education of Indonesia, and the results are listed as follows.

Table 1. Dimensions and indicators of school principals competency

Dimensions	Indicators	
Policy and direction	(1) has a personal vision (2) have the knowledge to develop the vision (3) build the school's vision (4) highly motivated (5) skills to develop vision (6) focus on the quality of continuous school improvement (7) strategic thinking analyze the organization's needs (8) Proactive (9) has a commitment (10) Innovative	(11) to create innovation (12) attempt to achieve a common vision with the support of the organization (13) have the creativity to achieve organizational excellence (14) with innovation to achieve organizational excellence (15) the ability of school leadership (16) to create innovation (17) efforts to support the achievement of a common vision of the school community
Collaboration between staff, stakeholders and society	(1) make working with parents of students (2) to cooperate with the board outside the school (3) do working with the community and government (4) responds to the needs of diverse communities	(5) Any work other (6) mobilize community resources (7) develop good relations with the outside (8) promote good relations with the outside (9) affect the community (10) influence government
School's program management	(1) to work effectively for the organization (2) work hard for the achievement of organizational goals (3) establish objectives without supervision by the senior school (4) able to perform the construction of the curriculum	(5) be able to build the organization (6) ability to lead school (7) can assess the school achievement (8) ability to report the ability of school achievement (9) ability to plan professional development of teachers and staff
Build of diversity	(1) be able to develop partnership programs (2) have a responsibility communications (3) understanding of social conditions	(4) active in social causes (5) could trigger the best response from other parties (6) understanding about the politics
Teaching and achievement	(1) ability to perform the supervision of student learning (2) ability to perform the supervision of teachers teaching (3) have the ability to plan for the supervision of teaching and learning (4) have the ability to conduct supervision of teaching and learning programs (5) has the ability to respond to follow-up supervision of teaching and learning results (6) supervision of student learning	(7) plan for the development of teaching (8) has the ability to manage the curriculum (9) able to manage the supervision results (10) supervision of instruction for teachers (11) goals oriented (12) always focus on the curriculum (13) ability to perform the supervision of environment
Teaching Leadership	(1) capable of promoting the learning environment effectively and efficiently (2) capable of promoting a positive learning culture (3) to promote quality teaching	(4) ability to promote a safe learning environment, effective and efficient (5) ability to develop performance improvement strategies (6) to promote professional learning community

Continous of table 1

Dimensions	Indicators	
Supervising teaching and learning	(1) ability to provide examples of best teaching practices for teachers (2) ability to provide practical examples of the best learning for students	(3) ability to plan the learning program (4) ability to manage the organization of teaching and learning (5) ability to translate operational within the learning
Responsibility for learning and assessment	(1) be able to evaluate the teaching and learning (2) planning the use of various learning assessment standards (3) respond to students' assessment results (4) has a responsibility for all components in the process of teaching	(5) ability to manage the results (6) have the ability to take care unit special services for students (7) are capable of building the assessment process to improve student performance (8) ability to conduct a study on teaching
Managing change and innovation	(1) have the ability take care of changes (2) able to analyze data for continuous school improvement (3) ability to collect data for continuous school improvement (4) have the critical thinking	(5) ability to solve the problem (6) ability to make decisions based on data and information (7) ability to handle change (8) has a problem solving technique
Building and operation of technology resources	(1) has the financial ability to care (2) have the ability to take care of ICT-based school information system (3) has the ability to use ICT (4) have the entrepreneurial spirit (5) have the ability to create a comfortable climate in schools (6) ability to plan the development of school (7) ability to leverage technology to achieve organizational excellence (8) ability to plan the provision of electronic tools for the integration of technology and teaching	(9) capable of implementing the school development program (10) ability to manage efficiently the financial (11) ability to manage school facility (12) ability to manage the schools ICT (13) ability to manage the use of learning facilities (14) capable of effectively carrying out the work plan (15) ability to use ICT (16) ability to take care of teaching facilities (17) management of the school
Ethical leadership	(1) understand the personality of the staff (2) does not easily give up (3) act fairly (4) have the honesty (5) have the ethical (6) morality (7) integrity	(8) open (9) has self operation (10) has a social sensitivity (11) have integrity as a leader (12) self awareness (13) social conscience (14) ability to manage self emotional
Human resources management	(1) ability to recruit staff to effectively (2) working with school teamwork (3) to communicate effectively (4) have the ability to take care of teachers and staff (5) building the capacity of staff building professional growth of staff	(6) develop the capacity of staff (7) ability to implement programs of (8) ability to build and maintain an effective staff (9) empowers the school's resources (10) Building relationships with other people

## Conclusions and discussions

Aspects of the method adapted from Jackson-Trochim in this study such as: (1) methods of analysis as a group come up with the unit to be mapped; (2) rules prescribing the concept of a mapping group, (3) the process of mapping the cluster mapping unit of analysis. Based on the results of analysis have been done then the concept of competency that must be supplied to the school principals in terms of; (1) school leadership dimensions: (a) the policy and direction, (b) cooperation with the staff and the community; (c) the management of the school program; and (d) to build diversity, (2) with dimensions of learning leadership: (a) teaching and achievement, (b) leadership lessons, (c) teaching and learning, (d) responsible for the teaching and assessment, and (3) leadership operational with the dimensions: (a) management of change and innovation; (b) the operational and building technology resources, (c) human resource management, and (d) ethical leadership. Therefore, the adaptation of Jackson-Trochim theory, to build the concept of school principals competency in this study suggest that, the concept of competencies that school principals can be obtained for the discussion of school principals continue to build competencies in the future. The result concept described as the figure below

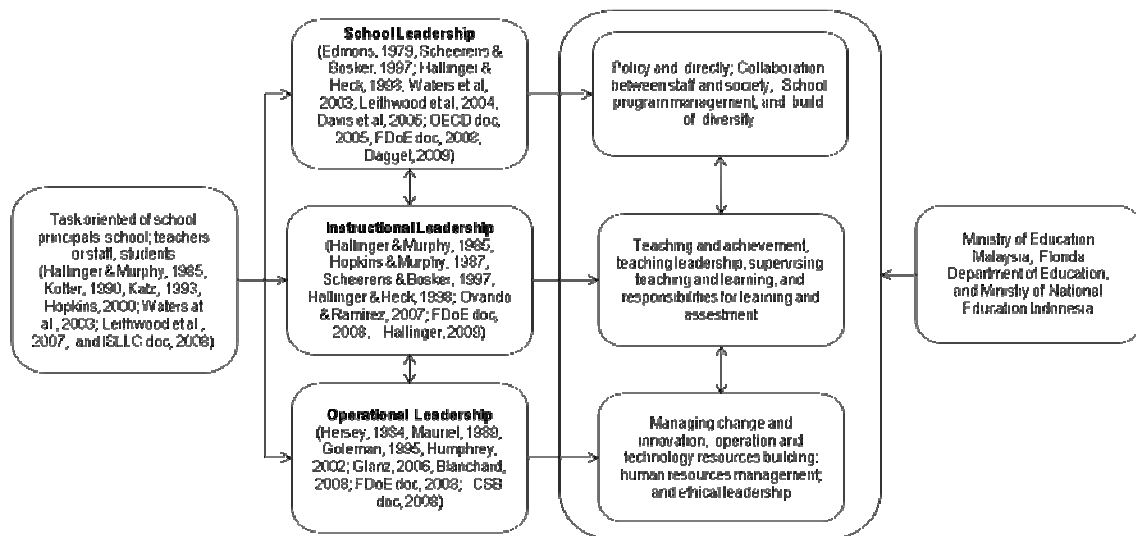


Figure 2. The competence of school principals concept (Mustamin & M. Al Muzammil Yasin, 2012)

## References

- Bartleman, R., Dinnen, M.S., Gallagher, B.A., & Kraft, S.A. (2007). *School Leadership Development Program Evaluation*. The School Board of Broward County, Florida.
- Boyatzis, R. (1982). *Management Competencies*. Retrieved 20 January 2011 from <http://changingminds.org>
- Carley, K., & Kaufer, D. (1993). *Semantic Connectivity: An Approach for Analyzing Symbols in Semantic Networks*. *Communication Theory*, 3, 183-213.
- Carley, K., & Palmquist, M. (1992). *Extracting, Representing, and Analyzing Mental Models*. *Social Forces*. Volume 70, p: 601-636.
- Country of Santa Barbara (2008). *Operational Leadership Development: Program*. California: University Employees'
- Daggett, W.R., (2005). *Successful Schools: From Research to Action Plans*. International Center for Leadership in Education Presented at June 2005 Model Schools Conference
- Davis, S., Hammond, L.D., LaPointe, M., & Meyerson, D. (2005). *School Leadership Study Developing Successful Principals*. This report was commissioned by The Wallace Foundation and

produced by the Stanford Educational Leadership Institute in conjunction with The Finance Project. Stanford Educational Leadership Institute (SELI).

- Drake, T.L., & Roe, W.H. (1986). *The Principalship (Third Edition)*. New York: Macmillan Publishing Company
- Edmonds, R. (1979). *Effective School for the Urban Poor*. *Educational Leadership*, 40 (3), 4-11
- Florida Department of Education (FDoE). (2008). *Florida Principal Leadership Standards*. Retrieved 16 January 2011 from <http://www.floridaschoolleaders.org>
- Gilbert, T. F. (1996). *Human competence: Engineering worthy performance* (Tribute ed.). Amherst, MA: HRD Press.
- Glanz, Jeffrey. (2006). *What Every Leadership Should Know about Operational Leadership*. New York City: Yeshiva University
- Goleman, D., Boyatzis, R.E, & McKee, A. (1995). *Primary Leadership: Realizing the Power of Emotional Intelligence*. Boston: Harvard Business School Publishing
- Hallinger, P., & Heck, R.H., (1998). *Exploring the Principal's Contribution to School Effectiveness: 1980 – 1995*. *School Effectiveness and Social Improvement*, vol 9. p. 157 – 191
- Hallinger, P., & Murphy, J. (1985). *Assessing the Instructional Leadership Behavior of Principals*. *Elementary School Journal*, 86(2), 217-248.
- Hallinger, Philip. (2005). *Instructional Leadership and the School Principal: A Passing Fancy that Refuses to Fade Away*. *Leadership and Policy in School*, (4) 1-20.
- Hallinger, Philip. (2009). *Leadership for 21st Century Schools: from Instructional Leadership to Leadership for Learning*. The Hong Kong Institute of Education
- Herling, Richard W. (2000). *Operational Definitions of Expertise and Competence*. *Advances in Developing Human Resources* Vol 2 No.1. 8-21
- Hersey, Paul. (1984). *The Situational Leader*. San Fransisco, California: The Center for Leadership Studies
- Hopkins, David. (2000). *Instructional Leadership and School Improvement*. National College for School Leadership (NCSL).
- Hopkins, D., & Murphy (1987). *Assessing and Developing Principal Instructional Leadership*. *Educational Leadership*.
- Institut Aminuddin Baki (2008). *Standard Kompetensi Kepengetuaan Sekolah Malaysia (SKKSM)*. Malaysia: IAB Kementerian Pelajaran Malaysia
- Jackson, K.M., & Trochim, W.M.K. (2002). *Concept Mapping as an Alternative Approach of Open-Ended Survey Responses*. *Organizational Research Methods*, Vol. 5 No.4 p. 307 – 336
- Jehn, K. (1995). *A multimethod Examination of the Benefits and Detriments of Intra Group Conflict*. *Administrative Science Quarterly*, 40, 256-282.
- Katz, Robert. L. (1993). *Skills of an Effective Administrator*. Received on 1 December 2011 from [www.sostreassoc.com](http://www.sostreassoc.com)
- Kementerian Pendidikan Nasional Indonesia. (2007). *Peraturan Menteri (Permen) Pendidikan Indonesia Nombor 13 Tahun 2007 tentang Standard Kompetensi Kepala Sekolah*. Jakarta: Kementerian Pendidikan Indonesia

- Kementerian Pelajaran Malaysia (2006). *Rancangan Malaysia ke – 9* (Edisi Pelancaran). Malaysia: Kementerian Pelajaran Malaysia
- Kementerian Pelajaran Malaysia. (2008). *Ringkasan Pembangunan Pendidikan 2001-2010*. Perancangan Bersepadu Penjana Kecemerlangan Pendidikan Kementerian Pelajaran Malaysia: Putrajaya
- Leithwood, K., Louis, K.S., Anderson, S., & Wahlstrom, K. (2004). *How Leadership Influences Student Learning (Executive Summary)*. New York: The Wallace Foundation; University of Toronto, Ontario Institute for Studies in Education; and University of Minnesota, center for applied Research and Educational Improvement.
- Leithwood, K., Louis, K.S., Seashore, K., Wahlstrom, K., Anderson, S., Mascall, B., & Gordon, M. (2007). *How Successful Leadership Influences Student Learning: the Second Installment of a Longer Story*. Second International Handbook of Educational Change, Springer International Handbooks of Education.
- Mahmood, Hussein. 1993. *Kepemimpinan dan Keberkesanan Sekolah*. Kuala Lumpur: Kementerian Pendidikan Malaysia, Dewan Bahasa dan Pustaka
- Mauriel, Jhon J. (1989). *Strategy Leadership for Schools*. San Francisco Oxford: Jossey Bass Publishers
- Mohammed, S., Klimoski, R., & Rentsch, J. (2000). *The Measurement of Team Mental Models: We have no Shared Schema*. Organizational Research Methods, 3, 123-165.
- Mustamin & M.Al-Muzzammil Yasin (2012). *The Competence of School Principals: What Kind of Need Competence for School Success?*. Journal of Education and Learning. Vol.6 (1) pages. 33-42.
- Novak, J. (1998). *Learning, Creating, and Using Knowledge: Concept Maps as Facilitative Tools in Schools and Corporations*. Mahwah, NJ: Lawrence Erlbaum.
- Novak, J., & Gowin, D. B. (1997). *Learning How to Learn*. New York: Cambridge University Press.
- Organization for Economic Co-operation and Development (2005). *Improving School Leadership: Rationale and Plans for The Activity*. Paris: Meeting of National Representatives
- Ovando, M.N. & Ramirez, A.Jr. (2007). *Principals' Instructional Leadership within a Teacher Performance Appraisal System: Enhancing Students' Academic Success*. Journal Pers. Eval Education 20:85 – 110.
- Owens, R.G. (2001). *Organizational Behavior in Education: Instructional Leadership and School Reform* (7<sup>th</sup> ed). Retrieved 21 January 2011 from [www.eric.ed.gov/ERICWebPortal](http://www.eric.ed.gov/ERICWebPortal)
- Ryan, G., & Bernard, R. (2000). *Data Management and Analysis Methods*. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 769-802). Thousand Oaks, CA: Sage.
- Scheerens, J. & Bosker, R.J. (1997). *The Foundation of Educational Effectiveness*, London: Pergamon
- Waters, T., Marzano, R. J., & McNulty, B. (2003). *Balanced Leadership™: what 30 Years of Research Tell us About the Effect of Leadership on Student Achievement*. A Working Paper McREL's.