Can multiple intelligence abilities predict work motivation, communication, creativity, and management skills of school leaders?

Chua Yan Piaw *, Aribah Ishak, Nor Asmadi Yaacob, Haslina Said, Lee Eng Pee, Zulkifli Abdul Kadir

University of Malaya, Institute of Educational Leadership, Wisma R & D, Jalan Pantai Baru, 59990 Kuala Lumpur, Malaysia

Abstract

The theory of multiple intelligences suggests that individuals draw on multiple intelligence abilities to create products and solve problems that are relevant to the societies in which they live. The objective of the study was to examine the predictors of multiple intelligence abilities of the Malaysian school leaders on their work motivation, communication skill, creativity, curriculum management skill and co-curriculum management skill. Subjects of the study were 287 school leaders, including 200 secondary school principals and 87 primary school headmasters. The subjects (n=287) answered two psychological paper-pencil tests and a questionnaire. Results of multiple linear regression analysis found three significant predictors for work motivation, two for communication skill and four for creativity. Besides that, predictors for curriculum management skill were logical-mathematical, interpersonal, verbal-linguistic, intrapersonal and naturalistic, and the eight multiple intelligence abilities were significant predictors for co-curriculum management.

Keywords: Multiple intelligence, work motivation, communication skill, creativity, curriculum management, co-curriculum management

1. Introduction

The theory of multiple intelligences (Gardner, 1983) suggests that individuals possess eight relatively autonomous intelligences, and individuals draw on these intelligences individually and corporately to create products and solve problems that are relevant to the societies in which they live (Gardner, 2006). The eight identified intelligences include verbal-linguistic, logical-mathematical, visual-spatial, musical-rhythmic, bodily-kinaesthetic, naturalistic, interpersonal, and intrapersonal. According to Gardner, multiple intelligence theory is a model of intelligence that differentiates intelligence into specific modalities, and these intelligences can help individuals, teams, and organizations use human capital more effectively in a complex environment (Gardner,
Looking at the above statements, multiple intelligence abilities are essential elements needed for school effectiveness and improvement.

A carefully review on literature in the field of school effectiveness and improvement found few new researches on relationship between multiple intelligence abilities and personal factors such as gender, age level, working experience in schools (Mirzazadeh, 2012; Gale, 2012; Adrian & Shagabutdinova, 2012; Adrian, Shahrir & Bahman, 2012; Adrian, Agata & Petrides, 2005). However, no studies have been done on the associations of multiple intelligence abilities of school leaders with variables such as work motivation, communication, create thinking and management skills. The question “can multiple intelligence abilities predict work motivation, communication skill, creativity and management skills of school leaders?” remains unanswered. Since intelligences are essential elements needed for effectiveness and improvement (Gale, 2012), studies on these associations should be conducted to provide theoretical and practical implications to the school leaders.

2. Objective of the studies

The objective of the study is to examine the predictors of multiple intelligence abilities of the Malaysian school leaders on their work motivation, communication skill, creativity, curriculum management skill and co-curriculum management skill.

3. Methods

The study employed a non-experimental research design. A survey was conducted to collect quantitative data, by using two psychological paper-pencil tests and a questionnaire.

3.1. Subjects of the study

Subjects of the study were 287 school leaders, including 200 secondary school principals and 87 primary school headmasters. The school leaders were randomly selected from eight states in Malaysia, i.e. Kelantan, Terengganu, Perak, Wilayah Persekutuan, Selangor, Pahang, Johor, and Penang. Among the school leaders, there were 183 males and 104 females; the majority of them were above 40 years old; nearly half of them have at least 25 years of working experience in schools and more than half of them were first degree holders (see Table 1).

3.2. Instrumentation and data collection

A psychological test, the Multiple Intelligences Test was used to collect data from the subjects. The test consists of 64 five points Likert-scale items which was used to identify the multiple intelligence level of the subjects. It collects data for eight multiple intelligence abilities, i.e. verbal-linguistic, logical-mathematical, visual-spatial, musical-rhythmic, interpersonal, intrapersonal, bodily-kinesthetic, and naturalistic based on the definitions of multiple intelligences of Gardner (2006). The time allocated for answering the test is 30 minutes. Furthermore, a questionnaire consists of items for measuring work motivation, communication, curriculum and co-curriculum management skill was used to collect data of the subjects. Besides that, the YCREATIVE-CRITICALS test (Chua, 2004) was used to collects data for creativity. The school leaders answered the test in their schools individually. Prior to the study, a reliability study was conducted on a group of school leaders with similar characteristics with the subjects of this study (n=30). The internal consistency reliability coefficients for the eight multiple intelligences in a pilot study were .67 to .89. Internal consistency reliability with coefficient value above .65 is acceptable (Chua, 2006). Therefore, the test was reported as reliable for collecting data from the school leaders.

4. Results

The data in Table 1 shows that four multiple intelligence abilities were significantly correlated with work motivation. The abilities are verbal-linguistic, logical-mathematical, interpersonal and intrapersonal. Interpersonal (r=.57) and logical mathematical (r=.52) have average correlation strength while verbal-linguistic has a weak
correlation (r=.32). Results of the multiple linear regression analysis (see Table 2) indicates that verbal-linguistic, logical-mathematical and interpersonal were significant predictors of work motivation of the school leaders. Verbal-linguistic ability predicts 32.7% of the work motivation, while a combination of the three predictors predicts 52.4% of work motivation of the school leaders.

For communication skill, all of the eight multiple intelligence abilities significantly correlated with it. The strengths of correlation were ranging from .34 to .70. However, the results of the multiple linear regression analysis indicate that only two of the multiple intelligence abilities were significant predictors of communication skill. The abilities were interpersonal and verbal-linguistic. Interpersonal alone predicts 49.8% of communication skill, while a combination of the two predictors predicts 57.4% of communication skill of the school leaders (see Table 2).

The data in Table 1 also indicates that for creativity, five multiple intelligence abilities were significantly correlated with it. The abilities were verbal-linguistic, visual-spatial, musical-rhythmic, intrapersonal and bodily-kinaesthetic. Musical-rhythmic, intrapersonal and bodily-kinaesthetic has strong correlation with creativity (r values range from .78 to .80) but verbal linguistic have a weak correlation with it. The results of the multiple linear regression analysis indicate that only four of the multiple intelligence abilities were significant predictors of creativity. The predictors were Intrapersonal, naturalistic, musical-rhythmic and visual-spatial. The four predictors predict 92.6% of creative thinking skill of the school leaders.

As for curriculum management skill, all of the eight multiple intelligence abilities significantly correlated with it. The strengths of correlation were rather high, ranging from .63 to .80. However, the results of the multiple linear regression analysis indicate that five of the multiple intelligence abilities were significant predictors of curriculum management skill. The abilities were logical-mathematical, interpersonal, verbal-linguistic, intrapersonal and naturalistic. Logical-mathematical was the main predictor which predicts 64.4% of curriculum management skill, while a combination of three main predictors i.e. logical-mathematical, interpersonal and verbal-linguistic predicts 57.4% of curriculum management skill of the school leaders. As a whole, a combination of the five multiple intelligence abilities significantly predicts 88.3% of the curriculum management skill of the school leaders.

Besides that, the eight intelligence abilities also significantly correlated with co-curriculum management of the school leaders. The strengths of correlation were not as high as for curriculum management. They range from .44 to .72. However, the results of the multiple linear regression analysis indicate that all of the eight multiple intelligence abilities were significant predictors of co-curriculum management skill of the school leaders. The descending order of prediction of the predictors was interpersonal, bodily-kinaesthetic, musical-rhythmic, visual-spatial, verbal-linguistic, intrapersonal, naturalistic and logical-mathematical. Four main predictors of co-curriculum management i.e. interpersonal, bodily-kinaesthetic, musical-rhythmic, visual-spatial contributed as high as 94.3% of the variance in co-curriculum management. As a whole, a combination of the eight multiple intelligence abilities significantly predicts 98.4% of the curriculum management skill of the school leaders.

Table 1: Pearson correlation between multiple intelligence abilities with work motivation, communication skill, curriculum management skill and creativity of school leaders

| Pearson correlation | Work motivation | Communication skill | Creativity | Curriculum management | Co-curriculum management |
|---------------------|-----------------|---------------------|------------|-----------------------|--------------------------|
| Verbal-linguistic    | .32*            | .64**               | .36*       | .71**                 | .72**                    |
| Logical-mathematical| .52**           | .66**               | .11        | .80**                 | .58**                    |
| Visual-spatial       | .17             | .58**               | .79**      | .63**                 | .62**                    |
| Musical-rhythmic     | -.05            | .41*                | .65**      | .71**                 | .44*                     |
| Interpersonal        | .57**           | .70**               | .23        | .76**                 | .75**                    |
| Intrapersonal        | .40**           | .50**               | .80**      | .75**                 | .69**                    |
| Naturalistic         | .23             | .34*                | .29        | .70**                 | .66**                    |
| Bodily-kinesthetic    | .11             | .40*                | .78**      | .69**                 | .71**                    |

Note: * Correlation is significant at P<.05; ** Correlation is significant at p=.01
Results of the multiple linear regression analysis indicates that verbal-linguistic, logical-mathematical and interpersonal were significant predictors of work motivation of the school leaders. The three predictors predict nearly fifty five percents of work motivation of the school leaders. For communication skill, two significant predictors of communication skill were interpersonal and verbal-linguistic. Interpersonal alone predicts nearly half of communication skill of the school leaders.

Results of the multiple linear regression analysis also indicate that four of the multiple intelligence abilities were significant predictors of creativity. The predictors were intrapersonal, naturalistic, musical-rhythmic and visual-spatial. The four predictors predict more than ninety percents of creative thinking skill of the school leaders. The results indicate that five of the multiple intelligence abilities that significantly predictor of curriculum management skill were logical-mathematical, interpersonal, verbal-linguistic, intrapersonal and naturalistic. The combination of the five multiple intelligence abilities significantly predicts nearly ninety percent of the curriculum management skill of the school leaders.

Besides that, the results of the multiple linear regression analysis indicate that all of the eight multiple intelligence abilities were significant predictors of co-curriculum management skill of the school leaders. Four main predictors of co-curriculum management i.e. interpersonal, bodily-kinaesthetic, musical-rhythmic, visual-spatial contribute nearly ninety five percents of the variance in co-curriculum management.

The findings are consistent with statements made by some scholars (for examples: Gale, 2012; Mirzazadeh, 2012; Zarei & Mohseni, 2012; Adrian & Shagabutdinova, 2012; Gardner, 2006; Adrian. Agata & Petrides, 2005) that effective leadership and management in different fields need different types of intelligences. The theory of multiple intelligences proposed by Howard Gardner (1983) is a model of intelligence that differentiates intelligence into specific modalities. These different intelligences are understood as personal tools and a person need specific intelligences to perform effectively in their specific fields of management (Mirzazadeh, 2012).

School is demanding leaders who have developed multilingual knowing and multiple skills, who are capable of setting and achieving the school’s goals, who know how to search for information to improve performance and achievements, who know how to work cooperatively and effectively with a big numbers of different characteristics.
and styles from different background – parents, teachers and students, leaders who are efficient and who know how to solve multiple problems in any given context, and leaders who use their multiple intelligence abilities effectively in the school can help to promote these goals. Therefore, the findings of this study provide potential theoretical and practical implications to the school leaders concerning multiple intelligence abilities in achieving an effective school management and leadership goals.

Despite limited by the small sample size used in the present study, the findings provide school leaders a deeper and broader understanding about their multiple intelligences. It also provides evidence for future study in this field of studies.

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