The Comparison between the Results of Students' Self-report and Teachers' Rating of their Students' Multiple Intelligences

Al-sabbah Saher

King Saud University, College of Education
Saher_usm@yahoo.com, salsabbah@ksu.edu.sa

Abstract: The main purpose of conducting this study was to make a comparison between the results of two modes of Multiple Intelligence Development Assessment Scale (MIDAS); the students' self-report and teachers' rating of their students' Multiple Intelligence (MI). The MIDAS has being adapted and validated in this used. Two groups of sample were formed in this study; the first group consisted of 1,404 students for the purpose of validating the Arabic version of MIDAS. In addition, the second group involved of 32 teachers and their 96 students for the purpose of compare the results of the both modes of MIDAS. The research design of the current study involved three main phases: the first phase is the adaptation and validation of the Arabic MIDAS. The second phase is the comparison between the results of MIDAS's subscales. The third phase involved the determination of Spearman's rho correlation between the results of the two modes for overall MIDAS. The results showed that the comparison between the Interpersonal subscales was negative and the correlation for Natural subscales was not significant, whereas the correlations for the rest of MIDAS's subscales were significant. Beside that, the results of the Kappa Index between the teachers and students on the MI rating indicated that there is a good value of the indices, which mean that there is a moderate of correspondence between the students' self-report and teachers' rating.
[Al-sabbah Saher. **The Comparison between the Results of Students' Self-report and Teachers' Rating of their Students' Multiple Intelligences.** *Life Sci J* 2013;10(2):963-971]. (ISSN: 1097-8135).
http://www.lifesciencesite.com. 135

Key words: assessment comparison, validation, multiple intelligence, and MIDAS

1. Introduction

In studying a relationship of human behavior, thinking, and intelligence, a measurement model is required to combine information through a huge number of items' responses. Multiple Intelligences (MI) theory is a great of interest, and MIDAS scale is a valuable instrument in measuring students' MI. Whereas Intelligence Quotient (IQ) test and similar tests are still use today in which, these tests focus mainly on the measurement of the IQ and measures rote memorization skill and focus on single intelligence aspect (Chisholm, 1998). The most popular standardized tests used by educators for measuring intelligence are two tests; the Wechsler test and the Stanford-Binet test. They are psychometrical sound, and measure only linguistic and logical/mathematical intelligence. Gardner (as cited in Jabber, 2003) ensure of making assessment as a formal part of the learning environment. However, many aspects of intelligence such as the music intelligence, spatial intelligence are not included into the traditional assessment but they were included into MI theory which has not been used in Jordanian schools.

In the field of intelligence theories, greater efforts given to develop scales and tests in order to measure the intelligence levels for students either in the schools or universities. In his study, Almotawkel (2001) investigate the psychometric properties of the standard progressive matrices (SPM) for pupils with age ranging from 8 to 12 years in the basic schools in Kusti city. Beside this, Alyan, (1988) validated WISC_R (Wechsler Inelegance Scale for Children. The purpose to measure the special mental abilities based on IQ measurement of individual. In order to adapt and validate the scale, Alyan (1988) has translated the scale to Arabic language and used a sample of 220 children from the Jordanian schools. The sample was selected randomly and the items were modified to Arabic culture. The content validity, construct validity, and the reliability were examined.

In addition, WISC-111 was adapted and validated in other Arabic country. In Sudan, Khaleefa (2006) adapted and validated the WISC_111 (for 6-16 years). The scale was translated from its original language (English) into Arabic language and back translated from Arabic to English. His study showed that the performance tests are identical in all countries except in Sudan and Japan. Researchers in the both countries were highly sensitive to their environment and the results showed that the WSCI-111 has generally delight in adequate structural equivalent in Sudan as well as Japan. The adapted test was administered to 330 Sudanese children and 1,125 Japanese children respectively. The most outstanding finding is that the WISC-111 has good level of reliability and validity in the both countries.

In his study to investigate the differences between MI among freshman students, Nofal (2008) translated MIDAS from English to Arabic language to be more useful in Arabian schools. The study used 515 from the

male and female students. The results of his study showed that, among the most popular types of intelligence are: Verbal intelligence, Interpersonal Intelligence, Emotional Intelligence, Mathematical/logical Intelligence, Bodily-Kinesthetic Intelligence , Spatial Intelligence, Natural Intelligence, Personal Intelligence, and finally Musical Intelligence.

The degree of possessing these types of intelligences amongst the sample individuals was not within the satisfactory average score identified in the study as the cut-off point. The findings showed that there were statistically significant differences between male and female students. As for the spatial intelligence, mathematical-logical intelligence, interpersonal intelligence, and emotional intelligence were in favor to female and in musical intelligence was in favor of the males. While, it was equal between male and female in the bodily-kinesthetic intelligence, verbal intelligence, natural intelligence, personal intelligence, and general intelligence. The study revealed that there was a relationship between all the types of multiple intelligences and academic achievement except for the spatial intelligence, bodily-kinesthetic intelligence, and natural intelligence. This article addresses the correlation between the results of two modes of MIDAS assessment for its subscales and overall scales. On the bases of measuring students' MI, this study adapted and validated MIDAS into Arabic contents.

1. Literature Review

1.1 Comparing Measurements of Students MI with Other Perspectives

This section of study comprises of a literature that related the implementation of MIDAS scale for the students of self-rating or other perspectives, such as teachers, parents, and peers. Generally, the notion of MI theory has been raised up regarding the viability of using self-report measures apart from the use of authentic and performance-based measures of Multiple Intelligences (Chan, 2004). Present time, Gardner's theory attends to be one of the most effective and activate strategy and instructional frameworks for teachers and educators in order to be used in designing their teaching materials and lesson plans. On other hand, it is a useful guide for the teachers to the way of teaching and understanding their students. Whatever, if this theory does not give the full meaning for the learning methods at classroom, at least it will enable the teachers to know their students levels in the classroom (Corno, 2004). In addition, Gardner's theory certainly delivers one approach that tries to address the various ways of teaching and understanding what students bring along with them to the classroom.

In addition, the studies which had investigated the students' MI by Self-estimation or by other perspectives, show several results. Daly, McConnell, and Glugosh (1996) noted how the parents' attentiveness to their children might differ. A few factors that influence the relationship between parents and their attentiveness to their children such as parent's ages and the genetic relationship. Further research in the area would do well to consider these potentially confounding variables into account when investigate the children's intelligence. Western culture's gender-related stereotypes are an important factor in explaining self-estimates and estimates by others (Raty & Snellman, 1992). The findings in this study were, the estimates for male perspectives were higher than the woman' perspectives in mathematical and spatial intelligence concurs with the Western culture. In addition, Furnham and Akande (2004) found that the ratings of both self-estimate and other perspectives are shows the female perspectives gave higher ratings than males in Kinesthetic Intelligence and Mathematical Intelligence. There are many factors may will have influenced effect of Self-Estimates which lead to significant differences.

In the field of measurement and psychology and in order to have valid instruments for measuring students' intelligence, two psychometric properties of tests based on the theory should be established, the validity and reliability be established typically to validate a theory of intelligence. Validity refers to the degree to which a test measures its intended attributes or desired outcomes. Although there are many kinds of validity and reliability methods, while the most popular reported method in the manual of standardized intelligence tests is concurrent validity. It is usually established by comparing scores on one test with scores of other standardized tests of the same standard (Esters, F. Ittenbach, 1999).

1.2 Measuring and Understanding Students' Intelligence

Despite, different views and perspectives which believed that the information provided by teachers in the spectrum of student' MI could be revealed self-reports' perspectives in understanding the needs of gifted students and in comprehensive identification that affects students' ability to attend to their teachers. Moreover, it is necessary to help the teachers to understand the social backgrounds of their students by learning about their interests, by dealing with the students, and that is certainly a vital approach to teach and help the teachers to understand their students in the schools (Salopak, 2004).

In his study Yoong (1982) found that the teachers were accurate predictors (mean d= 0.4), especially when their predictions taken on a global manner (mean d = 0.2). Analysis of variance revealed that the teachers' predictions on the attainments of students on various abilities did differ significantly, and the predictions being most accurate with high ability students and least accurate with low ability students. The results also showed that the teachers' predictions were most accurate with knowledge level objectives

(Bloom, 1956) and less accurate with higher-level objectives. A significant distortional interaction effect indicated that teachers' predictions were most accurate with high ability students in the attainments of knowledge level instructional objectives.

Furthermore, Harvey et al (2002) indicated that, there is a need to investigate and study the classroom environment at the schools, and to understand what the teachers and students doing there. When the teachers are teaching their students, the students should listen in an active way and thoughtful practice. This would result in deep understanding for student's needs by their teachers in terms of the learning environment. In particular, this method "listening to teach" implies that the knowledge of who is the learner and the understanding that both the teacher and learner bring to a situation constitute the starting place for teaching and listening (Schultz, 2005). Gardner's theory of MI enhanced teachers the best way of understanding their students in the classroom, which implies in particular the MI measurement for the students through their teachers in the schools. Moreover, the cultural differences are too effective on teachers rating for their students, because the teachers must learn about the cultures represented in the classroom. After that, they have to translate this theory into instructional practices. Teachers who are lack of sensitivity to cultural differences may misinterpret the behavior of minority students in ways that may lead to underestimating the academic potential of these pupils, to work successfully and effectively with children of diverse background and to be able to practice the MI theory Harvey et al (2002).

In addition, Schultz (2005) suggested a few kinds of listening, and advising that teachers should do it to understand learning and teaching deeply and to make them more understanding of students weakness and strengths to make them more successful:

Listening to rhythm.

Listening for silence.

Listening to know particular students

Listening to the social, cultural, and community context of students' lives

Finally, teachers should be thankful to consider all the intelligences as same level of important when they teach their students. This is a great difference to traditional education systems, which usually place a strong importance on the development, and use of mathematical and verbal intelligences (Brualdi, 1996).

1.3 Comparing Two Modes of MIDAS Assessment

The students' responses (self-report) and others (teachers and peers) responses are regarded as important resources of data to evaluate students' MI (Richert, 2003). The teachers are observing their children's' behaviors in diverse situations, and they could be aware of their giftedness and needs that are frequently invisible to teachers (Sabatella, 2003). The teachers can provide specific information about the students' MI because they spend long time with them in the schools. Moreover, the teachers can measure the students' intelligence through the observation of their behaviors in the school.

Teachers and peers have the necessary basis for judging the imaginativeness and uniqueness of a fellow student's ideas interestingly. Based on the diverse sources of information, the students as the experts in the knowledge can provide a perspective that could not be much by the others (Chan, 2004). On the other side, the education system needs to be more focus on Multiple Intelligence mainly, Math and linguistic intelligence, because these two intelligence types can assist the student's talents and skills, although the MI theory focuses on the implementation of the theory in the classroom. Nowadays, the teachers have to assess their students learning in ways that can give a truthful overview of their strengths and weaknesses. Lazear (1992) indicated that teachers ought to create profiles intelligence profiles for each student to be able to assess their students in any time. Followers of Gardner's theory privilege that a good approach of assessment is to give students a chance to explain the issues in their own ways using the different intelligence types. Alternative Preferred assessment methods include authentic assessment by using student portfolios, homework projects, student assignments, and creative tasks (Lazear, 1992).

Within the development of the self-report scale through the student MI, the profile and the issue that needs to be addressed is whether the student's perspectives have been more privileged than other perspectives. In this connection, such as information should not be overlooked specifically. Teachers are recognized to be good sources of information about their student's strengths, abilities, motivations, self-esteem, and creativity; especially when their students are young (Stalinski, 2004).

In the field of intelligence, Dweck (2002) identified two implicit theories of intelligence: students who have an existence in their life, they view their intelligence as stable internal characteristic and students with an incremental view, they believe that their intelligence is flexible and can be increased over time. Besides, many teachers and parents may be accidentally leading pupils to accept an existence view of intelligence. Moreover, student's conceptions of intelligence may influence their self-esteem (Dweck, 2002). The implicit theories mentioned above refer to the people's internal conceptions of intelligence. There are different principles and conceptions about nature of intelligence have a significant influence on the way they approach challenging intelligent everyday jobs: Students

who view their intelligence as an unchangeable internal characteristic be likely to to pay less attention to their academic tasks, however students who believe that their intelligence can be enhanced through effort (Dweck, Chiu, & Hong, 1995). n addition, Sternberg (2000) indicated generally, there are conceptions of intelligence. The study adapts these conceptions to make description on the school students.

First, explain implicit theory considers as the way to rate the student's intelligence. The following example is useful to better understand the teacher's judgments on their student's abilities: Job interviewers will make hiring decisions as a basis of their intelligence. This theory can be used to judge the students and people in everyday lives without collecting any knowledge and information about them.

Secondly, the implications of the theory of Multiple Intelligence enrich the explicit theories of the scientific researchers. In order to find out what these implicit theories are, and to which extent the general phenomena of MI can be used in the school.

Thirdly, implicit theories can be useful when researcher's suspects that the existing definite theories are invalid.

Finally, when the implicit theories of student MI can be understood, this can help the teachers to understand much more about the different cultures and the difference between students' ages.

2. Methodology

This section of the study discusses the research methodology and used techniques in this research. In addition, it sets out the rational for the methodology used and describes the considerations that influenced the development of research techniques and procedures. This study makes a comparison between students' self-report and teachers' rating of their students' MI. Moreover, this study adapts and validates the Arabic version of MIDAS using a large number sample of secondary schools students in Jordan.

2.1 Research Design

Two phases were involved in this study; the first phase is the adaptation and validation of original MIDAS into Arabic contents. This was followed by content validity using experts' judgments and the examination of dimensionality for the Arabic MIDAS's subscales. The checking of uni-dimensionality for each subscale and for the overall MI constructs. The second phase involved comparative design through two modes of Arabic version of MIDAS to measure MI construction and this has been achieved by comparing the results of the two modes of rating MI by self-report and teachers' ratings of students' MI. In addition, the researchers adopted the design of validation through judgmental and statistical analysis. The judgmental analysis provided evidence in setting up the content validity, and the statistical analysis established the construct validity and the criterion validity of the Arabic version of MIDAS. The fitting of the data to the Rasch model is used to determine the construct validity, and the consistency between students' self-report and the teachers' rating of MI provide evidence for criterion validity.

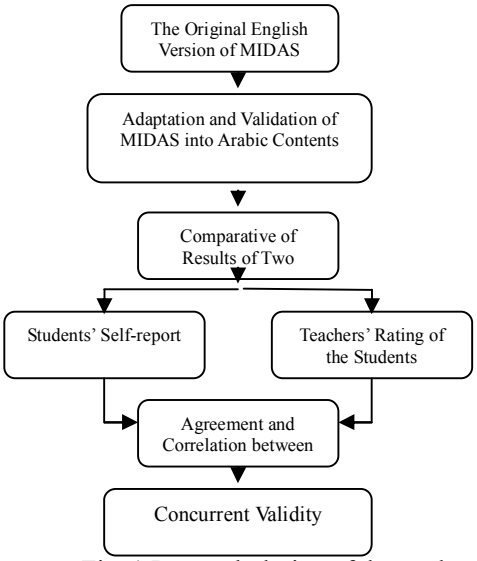

Fig. 1 Research design of the study

2.2 Population and Sample

The population of this study involves of all the students in Irbid city located in north of Jordan, in which the secondary stage is divided into two grades (eleventh grade and twelfth grade). The total number of the students in the secondary schools in Jordan is 193,041, while 18,204 students represented the population of this study. They were distributed in 206 schools with 97 schools for boys and 109 schools for girls in Irbid governorate during the academic year of 2005/2006 [Ministry of Education, 1999/2000]. This is due to the similarity of secondary schools in Jordan. Most of them are similar in characteristics, even though, some of them differ in facilities, size and school's location. There are a number of these schools which are known as comprehensive schools. A comprehensive school is one that has a large number of students from different places around the district and has more facilities as in comparison to other schools in the region.

In addition, this study comprises of two groups of the sample; the first group of the sample consisted of 1,404 students selected from 13 schools which selected out of the total number of 206 schools that represented the population of this study. The responses of the students were used to validate the

Arabic version of MIDAS. Besides, the second group of sample included of 96 students and 32 teachers. The students were requested to answer all the scale items while the teachers were requested to evaluate the students' MI. The responses obtained from the teachers and the students were in comparison to determine the level of agreement between the responses of the students' self-reports and those of the teachers' rating of the students' MI.

2.3 Instrument and Materials

Questionnaires are the most commonly used procedures to acquire data in a research field [Stone, 1978]. In this study, the instrument used is MIDAS scale adopted from Shearer which was developed in English Language. This instrument attempts to measure Gardner eight intelligence components [Shearer,1996]. In addition, MIDAS provides an array of meaningful real world activities for people to answer the instrument items in self-report or assessment by a knowledgeable informant. The respondents assess the frequency or duration of people performance or their displayed enthusiasm on that activity. The original MIDAS contains 119 items measuring eight MI constructs such as music intelligence (item 1 to 14), kinesthetic intelligence (item 15 to 27), math/logic intelligence (item 28 to 44), spatial intelligence (item 45 to 59), linguistic intelligence (item 60 to 79), interpersonal intelligence (item 80 to 97), intrapersonal intelligence (item 98 to 106), and natural intelligence (item 107 to 119).

Table 1. The Number of Items in Original MIDAS and Arabic MIDAS in Each Sub-scales

Intelligence	No. of Items in Original MIDAS	No. of Items in Arabic MIDAS
Musical	1 to 14	1 to 8
Kinesthetic	15 to 27	9 to 21
Math\Logic	28 to 44	22 to 36
Spatial	45 to 59	37 to 51
Linguistic	60 to 79	52 to 71
Interpersonal	80 to 97	72 to 89
Intrapersonal	98 to 106	90 to 97
Natural	107 to 119	98 to 108
Total	119	108

2.4 Procedures

The procedures that used to conduct this study involved several steps such as adaptation and validation procedures, sample administration, data collection, and data analysis. To adapt the MIDAS from English into Arabic context the MIDAS has been translated into Arabic language and sent to experts to obtain their suggestions and comments on MIDAS's items. For the purpose of validation of MIDAS, the researcher validated the adapted instrument using Winsteps program based on Rasch model analysis to examine the psychometric aspects for measuring the given construct.

The researcher translated the scale to Arabic language then examine the content validity of the scale. The stringent instrument development processes included items' construction, scale composition, sub-scales creation and the experts' judgments to improve the validity of the scale. The experts' suggestions and comments were used to refine the items in the Arabic version. Based on their suggestions 11 items out of the 119 items were changed in its content. In addition, in examine the reliability of the scale, the pilot study was conducted on 63 students from two schools in Jordan. The reliability method that used to compute the reliability coefficient was test-retest method.

In the data collection for the students and teachers' sample, the researcher administrated a sample of 32 teachers and 96 students from 4 secondary schools. Every teacher evaluated three of his/her students. The teachers provided with three answer sheets and were given 120 minutes to complete the responses for the three students with 40 minutes for every student. On the other hand, the 96 students were asked to answer the scale's items in 40 minutes to complete the responses. Next, the researcher collected backs the entire evaluation instrument from the 96 students and the 32 teachers who evaluated their students. The data obtained from the two modes, were then entered into the SPSS program and then used to determine the correlation between the results of the two modes of Arabic MIDAS.

In addition, data collected was entered into the SPSS Program version 16. The data saved in SPSS file was transformed to text file to determine the validity of MIDAS scale and the eight subscales using the Winsteps computer program version 3. The Winsteps program was used to examine the validity for the overall MIDAS scale and the subscales. Similarly, data from the second group of sample (32 teachers and 96 students) was also entered using the SPSS program to determine the correlations between the results of the two modes of assessment mentioned earlier. In addition, the Agreement program version 6 was used to compute the (Cohen's Kappa) indices to determine the agreement between the responses from

students' self-reports and the teachers' ratings of their students.

The formula that has been used to compute Cohen's Kappa reliability in this study is:

$$K = \frac{P - P_c}{1 - P_c}$$

3. Findings

3.1 Main Findings

The analysis of the 96 students and the 32 teachers by using the SPSS program version 16 based on Spearman Rho correlation found that most of the correlations between the teachers and students responses have significant correlation in the global comparison. Table 1.2 indicates that most of the correlations between the students' self-report and the teachers' ratings when they evaluate their student's MI on the overall MIDAS scale were significant correlations. The results corresponded with Harvey's (2002) findings, which indicated that the perspectives (teachers) could provide good information about their students, he believed that the information provided by teachers on the spectrum of student abilities or Multiple Intelligence revealed self-reports in understanding the students' needs and attitudes.

Table 2. he Spearman Rho Correlation Coefficient between the Teacher Evaluation and Students' self-report on all MIDAS Items (Global Comparison)

School	Teacher	S1	S2	S3	Average
1	**T1**	0 .769*	0.865*	0.794*	0.855
1	**T2**	0.685*	0.773*	0.427(ns)	0.628
1	**T3**	0.682*	0.855*	0.716*	0.751
1	**T4**	0.906*	0.943*	0.826*	0.891
1	**T5**	0.898*	0.550(ns)	0.914*	0.787
1	**T6**	0.793*	0.843*	0.521(ns)	0.719
1	**T7**	0.973*	0..905*	-0.550(ns)	0.809
1	**T8**	0.745*	0..988*	0.730*	0.821
2	**T9**	0.911*	0.766*	0.903*	0.859
2	**T10**	0.899*	0.730*	0.936*	0.855
2	**T11**	0.864*	0.740*	0.954*	0.852
2	**T12**	0.706*	0.645(ns)	0.900*	0.750
2	**T13**	0.936*	-0.340(ns)	0.929*	0.735
2	**T14**	0.817*	0..964*	0.664(ns)	0.815
2	**T15**	0.894*	0.733*	0.754*	0.793
2	**T16**	0.834*	0.907*	0.898*	0.879
3	**T17**	0.844*	0.892*	0.831*	0.855
3	**T18**	.0721*	0.790*	0.839*	0.783
3	**T19**	0.682	0.701	0.875*	0.752
3	**T20**	0.911*	0.766*	0.903*	0.860
3	**T21**	0.766*	0.831*	0.898*	0.831
3	**T22**	0.730*	0.839*	0.793*	0.787
3	**T23**	0.745*	0.860*	0.973*	0.859
3	**T24**	0.716*	0.789*	0.745*	0.750
4	**T25**	0.936*	0..905*	0.816*	0.885
4	**T26**	0.944*	0..923*	0.826*	0.897
4	**T27**	0.865*	0.706*	0.814*	0.795
4	**T28**	0.773*	0.936*	0.778*	0.829
4	**T29**	0.895*	0.817*	0.871*	0.861
4	**T30**	0.780*	0.894*	0.860*	0.844
4	**T31**	0.676*	0.834*	0.870*	0.793
4	**T32**	0.873*	0.911*	0.909*	0.987

*The number of using items in all the correlations in this table is (N=108) of overall MIDAS scale

Table 2. showed that 89 pairs of the correlation were found to be significant out of the 96 correlations coefficients between the teachers' ratings of the students' MI and students' self-reports, e.g. the first row have three correlations, which mean that the Teacher 1 (T1) has evaluated three students, whereas each student evaluated himself (self-report). The first correlation (0.769*) means that there is a positive correlation between T1 and S1, the correlation (0.865*) means that there is a positive correlation between T1 and S2, the correlation (0.794*) means that there is a positive correlation between T1 and S3. In addition, seven pairs of the correlations were found to be not significant out of the 96 correlation coefficients, two of the correlations were found to be negative (T13 & S2 and T7 & S3). For both T13 & T7, correlation coefficients for the other two students were high. This may be an indication of inconsistent rating between the teachers and the students.

3.2 Correlation between Subscales

The Table below shows the Spearman's rho correlation for all the MIDAS's subscales. The results indicated that, the correlation for the Interpersonal subscale was negative and the correlation for Natural subscale was not significant, whereas the correlations for the rest of MIDAS's subscales were significant.

Table 3. The Spearman Rho Correlation Coefficient between the Teacher Evaluation and Students' self-report on all MIDAS's Subscales

No	Subscale	Spearman's rho	Sig (2-tailed)
1	Music	.333**	.001
2	Kinesthetic	.464**	.000
3	Math\logic	.320**	.001
4	Spatial	.282**	.005
5	Linguistic	.213*	.037
6	Interpersonal	-.023	.825
7	Intrapersonal	.254*	.013
8	Natural	.046	.659

3.3 The Agreements between the Two Modes

The output of the items agreement through using Agreement program version 6.00, produced the agreement (Kappa Index) of items which explained the agreement between the teachers and students as in Table 4.

Table 4. The Kappa Index of Teachers' rating and Students' Self-report

	S1	S2	S3
T1	0.16	0.24	0.10
T2	0.25	0.52	0.37
T3	0.22	0.25	0.48
T4	0.28	0.31	0.43
T5	0.20	0.42	0.48
T6	0.23	0.45	0.24
T7	0.40	0.20	0.59
T8	0.10	0.43	0.51
T9	0.19	0.59	0.34
T10	0.29	0.73	0.47
T11	0.27	0.45	0.56
T12	0.52	0.45	0.52
T13	0.11	0.39	0.32
T14	0.29	0.49	0.40
T15	0.30	0.66	0.71
T16	0.37	0.60	0.66
T17	0.35	0.20	0.59
T18	0.45	0.32	0.55
T19	0.28	0.58	0.43
T20	0.38	0.58	0.43
T21	0.20	0.52	0.82
T22	0.32	0.25	0.49
T23	0.52	0.31	0.45
T24	0.25	0.52	0.13
T25	0.31	0.25	0.59
T26	0.25	0.41	0.45
T27	-0.21	0.58	0.33
T28	0.52	0.32	0.65
T29	0.25	-0.49	0.79
T30	0.31	0.51	0.72
T31	0.19	0.32	0.88
T32	0.35	0.41	0.56

Table 4. showed the Kappa Index between the teachers and students on the MI rating. The results indicated that there is a very low value of the indices, which mean that there is lack of correspondence between the students' self-report and teachers' rating.

The standards of judgments based on the possible interpretation of Kappa.
Poor agreement = Less than 0.20
Fair agreement = 0.20 to 0.40
Moderate agreement = 0.40 to 0.60
Good agreement = 0.60 to 0.80
Very good agreement = 0.80 to 1.00. (Simon, 2005).

3.4 The Comparison between Literature and Science Students

Table 5. The Comparison Between the Mean of Literature and Science Stream

The scale	Stream	Mean	Statistical Significance
Overall MIDAS	Literature Science	2.99 3.04	.010
Music	Literature Science	2.47 2.58	0.00
Kinesthetic	Literature Science	3.12 2.94	0.00
Math\Logic	Literature Science	2.59 3.18	0.00
Spatial	Literature Science	2.91 3.04	0.01
Linguistic	Literature Science	3.18 3.01	0.01
Interpersonal	Literature Science	3.28 3.19	0.00
Intrapersonal	Literature Science	3.39 3.28	0.00
Natural	Literature Science	2.63 2.70	0.01

Table 5. clarifies the differences between the means of both streams science and literature with the statistical significance for overall MIDAS and its eight subscales. Based on the significant values and the means values, the results shown the following:

- For the overall MIDAS, the science students were evaluated themselves higher than the literature students.
- For the Music, Spatial, Math\Logic, and Natural subscale, the science students evaluated themselves higher than the literature students.
- For the Kinesthetic, Linguistic, Interpersonal, Intrapersonal subscale, the Literature students were evaluated themselves higher than science students.

Finally, the results found that there were significance relationships between the two different modes of MI assessment for the overall scale. However, the comparison made using Kappa index was not-significant in most of the comparisons for the eight MIDAS's subscales.

4. Discussion

The main findings in this study carried out the results of the content validity, and 11 items in the Arabic version of MIDAS were changed to match the content of the Arabic culture. Besides, the output of analysis for the pilot study showed the reliability coefficient to be 0.85 for the overall scale using test re-test method, and for the eight subscales the reliability coefficients were ranging within 0.78 - 0.87. While, the output of using the computer program -Winsteps program based on Rasch model- indicated that 11 items had been removed from the Arabic version, and the items are (items 2, 3, 5, 7, 11, 13, 38, 98 107,109, and 116) and the residual of 108 items formed the final version of Arabic MIDAS in this study.

The global comparison between the results of students' self-report and teachers' ratings of the students' MI indicated that most of the correlations were significant correlations for the overall MIDAS scale. Moreover, the comparison for the MIDAS's subscale indicated that, the correlation for the Interpersonal subscale was negative and the correlation for Natural subscale was not significant, whereas the correlations for the rest of MIDAS's subscales were significant. Beside that, the results of Kappa Index between the teachers and students on the MI rating indicated that there is a moderate value of the indices, which mean that there is a good correspondence between the students' self-report and teachers' rating.

5. Conclusion and Implications

The destination of the implication in this study is for the students and teachers:

From the examination of the MIDAS validity in the current study, the Arabic version is a good tool in measuring students' MI in schools. By using MIDAS scale a number of implementations for the educators, institutes, and students can be applied. The Arabic MIDAS also offers a lot of information and attitudes about the students' MI in their primary and secondary schools.

One of the implications of Arabic MIDAS for educators and students in their vocational counseling, which enables them to decide whether to continue their academic studies in the vocational stream or in the academic stream based on their intelligence preferences and interests, which can be stately by using MIDAS scale.

In addition, Arabic MIDAS can be used in general by educators and more particular by counselors throughout counseling sessions and the information achieves from the teachers perspective and rating on students' MI can be useful to categories students by state their weaknesses and strengths (Dababneh, 1998).

Acknowledgement:

Apart from the efforts of myself, the success of any project depends largely on the encouragement and guidelines of many others. I take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of this project and my full acknowledgment for Deanship of Scientific Research at King Saud University.

Correspondence to:
Alsabbah, Saher
King Saud University, Faculty of Education Research Center, Saudi Arabia, P.O, Box 2458, Riyadh 11451
Telephone: 00966507662674
Emails: Saher_usm@yahoo.com,salsabbah@ksu.edu.sa

References

1. Almotoakel, M., Atallah, S., Haseeb, B., Mohammad, N., & Hassan, S. (2001). The Psychometric properties of the standard progressive matrices (SPM) among the pupils their age is ranging from 8 to 12 years in the basic schools in Kusti city. Jwba University for Literature and Science, 6, 10-31.
2. Chan, D. (2004). Multiple Intelligence of Chinese gifted students in Hong Kong: Perspectives from students, parents, teachers, and peers. Academic Research Library, 27(1), 18.
3. Chen, J. (2004). Theory of Multiple Intelligence: Is it a scientific theory? Teacher College Record, 106(1), 17-23.
4. Chisholm, J. S. (1998). Developing Multiple Intelligences in the classroom. Unpublished A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts in Education, Saint Mary's University Halifax, Nova Scotia, Canada.
5. Corno, L. (2004). Forward for special issue of TCR on Multiple Intelligences. Teacher College Record. Columbia University, 106(1), 1.
6. Dababneh, K. (1998). The Factors that effect the gifted students' thinking and intelligence in Jordanian schools. Unpublished Master Thesis, The Jordanian University, Jordan-Amman.
7. Daly, M., McConnell, C., & Glugosh, T. (1996). Parents' knowledge and students' beliefs and attitudes. Etiology and Sociobiology, 17, 201-210.
8. Dulewicz, V., & Higgs, M. (2000). Emotional intelligence: The way forward. Competency & emotional intelligence quarterly. 7(N 3,1), 19-22.
9. Esters, G. I., & Ittenbach, F. (1999). Contemporary theories and assessments of intelligence: A primer career and technical

education. Professional School Counseling, 2(5), 373-376.
10. Furnham, A., & Akande, A. (2004). African parents' estimates of their own and their childern's Multiple Intelligence Current Psychology: Development, Learning, Personality, social, 22(4), 281-294.
11. Harvey, F., Silver, Richard, W., Strong, Matthew, J., & Perini. (2002). So each may learn: Intelligence learning styles and Multiple Intelligences. ASCD 1(2002 ISBN 0-87120-387 1).
12. Jabber, A. (2003). Multiple Intelligence and the implementation in the school (1 ed.). Cairo-Egypt.
13. Johnson, J., & White, T. (2002). The use of Multiple Intelligence in criminal justice education. Journal of Criminal Justice Education. Journal of Criminal Justic Education, 13(2), 369.
14. Kornhaber, M. L. (2004). Multiple Intelligence: From the Ivory tower to the dusty classroom-but why? Journal Customer Services, 106(1), 67-76.
15. Lazear, D. (1992). Teaching for multiple intelligence. Fastback 342 [Electronic Version]. Eric D356227, 49. Retrieved 23 September 1992 from http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/13/a8/48.pdf.
16. Ministry of Education. (2006/2007). The statistical report of Jordanian ministry of education. Amman, Jordan: Department of Planning and Statistics.
17. Nofal, M. and M. Alhileh (2008). "The Differences between Multiple Intelligence among Freshman Students Enrolled at UNRWA Higher Education in Jordan." Alnjah for Researchs (Social Science) 5(22): 1-25.
18. Raty, H., & Snellman, L. (1992). Does Gender make any difference? common sense conceptions of intelligences. Social Behavior And Personality, 20, 23-34.
19. Richert, E. S. (2003). Excellence with justice in identification and programming. In N. Colangelo & G.A.David (Eds.) Handbook of gifted education (3ed). Pp. 146-158. Boston: MA: Allyn and Bacon.
20. Sabatella, M. L. (2003). Role of programs: Relationships with parents, schools, and communities. In J. F. Smutny (Ed), Designing and developing programs for gifted students: Thousand Oaks, CA: Corwin Press.
21. Salopak, J. J. (2004). Social intelligence. ABI/INFORM Global, 58(9), 17.
22. Shearer, B. (1996). The MIDAS: A professional manual. Multiple Intelligences research and consulting. Kent, Ohio.
23. Shearer, B. (2004). Using a Multiple Intelligences assessment to teacher development and student achievement. Teacher College Record, 106(1), 147-162.
24. Stalinski, S. (2004). Organizational intelligence: A systems perspective. Organization Development Journal, 22(2), 55.
25. Yoong, S. (1982). The teachers' predictions on their students achivement in chemistry subject. Educatores and Education. Journal of School of Education Studies. Malaysia-Penang, 4(1), 38-49.

1/8/2013