

CHAPTER V

CONCLUSIONS AND SUGGESTIONS

All informations and discussions in previous parts of this writing revealed that Gardner's belief about differences among human beings, exist in SMA N 1 Paguyaman. The following parts give the conclusions and suggestions which can be helpful for subsequent research concerning MI theory.

5.1 Conclusions

From finding and discussion having been presented previously, there are several terms can be concluded as follows:

1. Based on data analysis per sampled-classes, the MI Tendencies represented by the average value per intelligence are varied. The calculation shows that highest average values are resided in Interpersonal Intelligence for all six classes taken. For Class X-A, X-B, X-D, and X-F the average value of the eight intelligences can be categorized as *Strong* tendency. Meanwhile, for Class X-C and X-E, average value on Interpersonal Intelligence can be categorized as *Very Strong* tendency; and for other seven intelligences, the average values are resided in *Strong* tendency.
2. Based on data analysis per gender, Males get higher average value than females on five intelligences namely Naturalist Intelligences with 2.07 of the difference; Logical-Mathematical Intelligence with 1.55 of the difference; Bodily-Kinesthetic Intelligence with 3.81 of the difference; Verbal-Linguistic Intelligence with 0.99 of the difference; and Visual-

Spatial Intelligence with 1.86 of the difference. Meanwhile, female got higher average value than male on other three intelligences, namely Musical Intelligences with 1.06 of the difference; Interpersonal Intelligence with 2.26 of the difference; and Intrapersonal Intelligence with 2.83 of the difference.

3. The analysis toward the whole survey data, Interpersonal Intelligence is the highest one with 38.98 of the average value. The other seven intelligences showed ≤ 0.71 of differences between one to another on highest-to-lowest arrangement.
4. In terms of item-to-total correlation all $r = 0.278 - 0.679$ which are significant at the 0.01 level. Meanwhile on inter-item correlation, several invalid cases occur on each intelligences, namely 22 invalid-correlation on Naturalist Intelligence, 29 invalid-correlation on Musical Intelligence, 20 invalid-correlation on Logical-Mathematical Intelligence, 14 invalid-correlation on Interpersonal Intelligence, 25 invalid-correlation on Bodily-Kinesthetic Intelligence, 14 invalid-correlation on Verbal-Linguistic Intelligence, 30 invalid-correlation on Intrapersonal Intelligence, and 24 invalid-correlation on Visual-Spatial Intelligence. The invalid-correlations are the indication for the correction of the item construction on the questionnaire. However, by observing item-total correlations which are valid at the 0.01 level, no item can be excluded from the questionnaire at my survey.

5. All inter-aspect correlations are significant at the 0.01 level with $r = 0.284 - 0.657$ which means that the eight intelligences are correlated one to another. Meanwhile, the aspect-total correlation showed $r = 0.654 - 0.822$ which means that the survey was to measure properly I am required to measure at my sample.
6. From the result of internal consistency analysis on the eight intelligence, can be concluded that: (a) Musical and Intrapersonal Intelligence are *reliable enough* to be generalized for future-administration of the survey, by only representing the $\alpha = 0.553$ and 0.532 of at least $\alpha \geq 0.6$ required for *Moderately reliable* as other six intelligences; (b) Nine items were criticized for omission, namely, item No.6, 2, 16, 21, 42, 61, 50, 70 and 77; (c) Verbal-Linguistic Intelligence showed the highest Cronbach's alpha value with $\alpha = 0.705$; and (d) In spite of being the lowest on average value, Bodily-Kinesthetic Intelligence is the most reliable aspect with no items criticized for deletion.
7. Based on the item analysis, there are ten characteristics that need to be deeply observed in school practice at SMA N 1 Paguyaman. They are (a) Sensitivity toward nature changes; (b) Ecological awareness; (c) Interest of playing musical instrument; (d) Curiosity on how things work; (e) Sense of leadership; (f) Expertise in one or more sports; (g) communication in verbal way; (h) Interest toward being involved in discussion debate or speech; (i) Sense of independence; and (j) Creative-visual performances.

8. The item analysis also shows the gender differences in percentage of agreement, where male respondents get higher percentage on items about *having ecological awareness, enjoying strategy games, navigating well, playing musical instrument, asking question about how things work, being expertise in sport, and paying attention toward action-scene in movie.* Meanwhile, females show higher percentage on items about *giving advice to friends who have problems, expressing own feeling accurately, keeping personal diary, and using song or music to remember information.*

In a word, females tend to have good self-regulation including the ability of finding their own way to help learning activity; and male showed more tendencies on understanding procedure and showing active performance.

5.2 Suggestions

The results that are presented on this survey have described about the MI tendency on my sample. In order to reach a good description on subsequent administration, the following terms could be considered:

1. The results of survey or other forms of observation toward intelligence tendency should not be interpreted as an absolute grade of students' intelligence because intelligence, in concept, can be changed, developed and enriched over time. The key points of MI Theory can be a good guidance.
2. In addition to survey result, in-depth observation toward the tendency should be held in school. This can only be held by teachers in everyday activity so that the brief intelligence profile can be created and shared to

students. Observation form in “Multiple Intelligences in Practice” of Mike Fleetham will be helpful for teachers to do such term.

3. Test re-test method of survey construction should be concerned for subsequent administration of MI Inventory to reach valid value of both Cronbach’s’s alpha and Pearson Product Moment values on inter-item correlation, inter-aspect correlation and internal consistency. Research about development of MI Inventory should be held in order to create instrument that provide more variations in its model and administration method.
4. It is better to use MI Inventory at the first day of school to get description of students’ intelligence characteristics. It will be helpful to recognize new students of the school, not only knowing the demographic information of them, but also their proclivities, likes and dislikes. This will be a good starting point of teachers to understand students, and for students to share what they have in mind.
5. When MI Profile is applied in school, the involvement of parents is needed so that instructional design will not only be designed and applied by educators in school, but also as the product of cooperative relationship between school and parents. MI Profile can tell parents about strengths and weaknesses of their children so that parents can provide facilities, activities, opportunities and motivation to appreciate the strengths and minimize the weaknesses.
6. Some readings will inspire to start applying Multiple Intelligences in educational practice, especially in school. *Multiple Intelligences in the*

Classroom of Thomas Armstrong, *Multiple Intelligence in Practice* (Mike Fleetham), *MI and Instructional Technology* (Walter McKenzie), *MI and the Success* (Campbell and Campbell), *Celebrating Every Learner* (Thomas Hoerr) or *Mozart Effect* (Don Campbell) and *Emotional and Social Intelligence* (Goleman) will help to know about MI theory and its practice.

The conceptual framework, research design, research findings and research discussions above, illuminate the position of mine in this writing. The existence of variation in terms of learning characteristics make me agree with Gardner's way of defining intelligence including the key points of the MI theory that human beings are born to be different and intelligence work mysteriously in complex way. In a word, MI Inventory is helpful for describing and for exploring students' multiple intelligences tendency especially at the first-year of school. Hopefully, the research and the development of MI Inventory can be deeply explored by subsequent researcher.

REFERENCES

- Afifah, N. (2009). *Pengembangan Inventori Persepsi Multiple Intelligences Untuk Siswa SMA*. Skripsi (Abstract only), Jurusan Bimbingan Konseling dan Psikologi, Fakultas Ilmu Pendidikan, Universitas Negeri Malang. Retrieved at October 24th 2011 from:
<http://library.um.ac.id/free-contents/index.php/pub/detail/pengembangan-inventori-persepsi-multiple-intelligences-untuk-siswa-sma-nur-afifah-39763.html>
- Armstrong, T. (2000). *Multiple Intelligences in the Classroom* (2nd Ed.). Alexandria, VA: Association for Supervision and Curriculum Development.
- _____. (2005). *Setiap Anak Cerdas: panduan membantu anak belajar dengan memanfaatkan multiple intelligence-nya*. (trans. Ed). Jakarta: PT. Gramedia Pustaka Utama.
- _____. (2009). *Multiple Intelligences in the Classroom* (3rd Ed.). Alexandria, VA: Association for Supervision and Curriculum Development.
- Baum, S. J. V & B. Slatin. (2005). *Multiple Intelligences in the Elementary School*. New York: Teachers College Press, Columbia University
- Burnet, G. (2002). *Learning to Learn: Making Learning Work for All Students*. UK: Crown House Publishing Ltd.
- Butler-Bowdon & Tom, (2007). *50 Psychology Classics*. London & Boston: Nicholas Brealey Publishing
- Campbell, D. (2002). *Efek Mozart: Memanfaatkan Kekuatan Musik untuk Mempertajam Pikiran, Meningkatkan Kreativitas, dan Menyehatkan Tubuh*. Jakarta: Gramedia Pustaka Utama
- Campbell, L. & B. Campbell. (1999). *Multiple Intelligences and student achievement: success stories from six schools*. Alexandria, VA: ASCD.
- DEPDIKNAS. (2006). *Kumpulan Permendiknas tentang Standar Nasional Pendidikan (SNP) dan Panduan KTSP*. Jakarta: Direktorat Jendral Pendidikan Dasar dan Menengah, Direktorat Pembinaan Sekolah Menengah Atas
- Deutschendorf, H. (2009). *The other kind of smart: simple ways to boost your emotional intelligence for greater personal effectiveness and success*. New York: American Management Association

- Dixon, S.K & Kurpius S.E.R. (2009). Academic Self-Concept. In Barbara Kerr (Ed.). *Encyclopedia of Giftedness, Creativity, and Talent Volume 1&2*.(p.5) California: SAGE Publications.
- Doyle, T. (2008). *Helping Students Learn in a Learner-Centered Environment: a Guide to Facilitating Learning in Higher Education*. Virginia: Stylus Publishing.
- Dornyei, Z. (2003). *Questionnaires in Second Language Research: Construction, Administration, and Processing*. New Jersey: Lawrence Erlbaum Associates
- Elfira, N. (2009). *Pengembangan Inventori Multiple Intelligences Berbasis Komputer dengan Menggunakan Software bagi Siswa SMA*. Skirpsi (Abstract Only). Jurusan Bimbingan Konseling dan Psikologi FIP Universitas Negeri Malang. Retrieved at October 24th 2011 from: <http://library.um.ac.id/free-contents/printjournal.php/40262.html>
- Eskelsen, E. (2010). MI, Science, and the Naturalist Intelligence. In Thomas R. Hoerr (Ed.), *Celebrating every learner : activities and strategies for creating a multiple intelligences classroom* (p. 227). San Fransisco: Jossey Bass.
- Falk, L. (2010). The Interpersonal Intelligence. In Thomas R. Hoerr (Ed.), *Celebrating every learner : activities and strategies for creating a multiple intelligences classroom* (p. 9). San Fransisco: Jossey Bass.
- Fleetham, M. (2006). *Multiple Intelligences in Practice: enhancing self-esteem and learning in the classroom*. Stafford: Network Continuum Education.
- Gardner, H. (2011). *Frames of Mind: The Theory of Multiple Intelligences (Tenth-Anniversary Edition)*. New York: Basic Books.
- _____. (2006). *The Developmental and Education of Mind: The selected works of Howard Gardner*. London and New York: Routledge
- _____. (2006). *Changing Mind: Seni Mengubah Pikiran Kita dan Orang Lain*. Jakarta: TransMedia.
- Goleman, D. (1997). *Emotional Intelligence: Kecerdasan Emosional; Mengapa EI lebih penting dari IQ*. Jakarta: Gramedia Pustaka Utama.
- Griffiths, B. (2010). Minding the Music. In Thomas R. Hoerr (Ed.), *Celebrating every learner : activities and strategies for creating a multiple intelligences classroom* (p. 173). San Fransisco: Jossey Bass.
- Hoerr, T. R. (2000). *Becoming a Multiple Intelligences School*. Alexandria, VA: Association for Supervision and Curriculum Development

- _____. (2010). Intrapersonal is the Key to Success. In Thomas R. Hoerr (Ed.), *Celebrating every learner : activities and strategies for creating a multiple intelligences classroom* (p. 43). San Fransisco: Jossey Bass.
- Hornby, A. S. (1995). *Oxford Advanced Learner's Dictionary of Current English* (5th Ed.). Oxford: Oxford University Press
- Jensen, E. (2008). *Memperkaya Otak: Cara Memaksimalkan Potensi Pembelajar* (trans. ed). Jakarta: PT. INDEKS.
- Kirby, E and J. McDonald. (2009). *Engage Every Students: Motivations Tools for Teachers and Parents*. Minneapolis, MN: Search Institute Press
- Lodico, M. G. DT. Spaulding & K.H. Voegtle. (2006). *Methods in Educational Research : from Theory to Practice* (1st ed.). San Fransisco: Jossey Bass
- _____. (2010). *Methods in Educational Research : from Theory to Practice* (2nd ed.). San Fransisco: Jossey Bass
- Lucas, B and G Claxton. (2010). *New Kinds of Smart: How the Science of Learnable Intelligence is Changing Education*. London: McGraw Hill Open University Press.
- Makel, M. C. and J. A. Plucker. (2009). Intelligence Theories. In Barbara Kerr (Ed.). *Encyclopedia of Giftedness, Creativity, and Talent Volume 1&2* (p. 481). California: SAGE Publications
- McKenzie, W. (2005). *Multiple Intelligences and Instructional Technology* (2nd Ed.). Washington DC: International Society for Technology in Education.
- Moldoveanu, M. & E. Langer. (2002). When “Stupid” is Smarter than we are. In Robert Sternberg (editor). *Why Smart People can be so Stupid* (pp. 228-229). New Haven & London: Yale University Press.
- Morissan, et al. (2012). *Metode Penelitian Survei*. Jakarta: KENCANA
- Moseley, D. et al. (2005). *Frameworks for Thinking: a Handbook for Teaching and Learning*. Cambridge: Cambridge University Press
- Neihart, M. & Huan V.S. (2009). Adolescent, Gifted. In Barbara Kerr (Ed.). *Encyclopedia of Giftedness, Creativity, and Talent Volume 1&2*.(p.26) California: SAGE Publications.
- Nuernberger, P. T. Rogers & L. McKenna. (2010). The B-K Every day. In Thomas R. Hoerr (Ed.), *Celebrating every learner : activities and strategies*

for creating a multiple intelligences classroom (p. 77). San Fransisco: Jossey Bass.

Prasetyo, JJ Reza & Y. Andriani. (2009). *Multiply Your Multiple Intelligences*. Yogyakarta: ANDI Yogyakarta

Reardon, S. (2010). Different Intelligences are an Aspect of Diversity. In Thomas R. Hoerr (Ed.), *Celebrating every learner : activities and strategies for creating a multiple intelligences classroom* (p. 260). San Fransisco: Jossey Bass.

Reis, S.M. & Renzulli J.S. (2009). Creative Productivity. In Barbara Kerr (Ed.). *Encyclopedia of Giftedness, Creativity, and Talent Volume 1&2*.(p.195) California: SAGE Publications.

Rhoads, S.E. (June 1, 2004). Taking Sex Differences Seriously. *Press Release*. Retrieved January 13, 2013. From World Wide Web: <http://www.faculty.virginia.edu/sexdifferences/news001.html>

Roach, C. (January 7, 2011). Intelligence: Both Learned and Inherited. *Yahoo!*. Retrieved April 28, 2011 from World Wide Web: http://www.associatedcontent.com/article/6190740/intelligence_both_learned_and_inherited.html?cat=5

Sarjono, A. R. (2001). *Sastra dalam Empat Orba*. Yogyakarta: Yayasan Bentang Budaya

Smith, M. G. (2010). Spatial Intelligence: Through the Mind's Eye. In Thomas R. Hoerr (Ed.), *Celebrating every learner : activities and strategies for creating a multiple intelligences classroom* (p. 200). San Fransisco: Jossey Bass.

Sternberg, R. J. (2004). North American Approach to Intelligence. In Robert J. Sternberg (Ed.). *International Handbook of Intelligence* (p.415) Cambridge: Cambridge University Press.

Sternberg, R. J. & E. L. Grigorenko. (2010). *Mengajarkan Kecerdasan Sukses 2nd edition (trans.)*. Yogyakarta: Pustaka Pelajar

Sternberg, R. J. L.Jarvin & E. L. Grigorenko. (2011). *Explorations in Giftedness*. Cambridge: Cambridge University Press.

Virgolim, A. M. Rodrigues. (2009). Intelligence. In Barbara Kerr (Ed.). *Encyclopedia of Giftedness, Creativity, and Talent Volume 1&2*.(p.473) California: SAGE Publications.

Webb, N. E. (2009). Fluid and Crystallized Intelligence. In Barbara Kerr (Ed.). *Encyclopedia of Giftedness, Creativity, and Talent Volume 1&2*.(p.360) California: SAGE Publications.

Wittig, A. F. & G William III. (1984). *PSYCHOLOGY: an Introduction*. Singapore: McGraw-Hill

Yam, P. (1998). Intelligence Considered.. *Scientific American Volume 9 Number 4*. (p.11) New York: Scientific American