THE EFFECTIVENESS OF JERI MODULE AMONG MALAYSIAN ARMED FORCES ON SPIRITUAL ASPECT USING RASCH MEASUREMENT MODEL

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INTRODUCTION

The pillar that is the core to the construction of the human civilization is through the peace and strength of the ummah. To achieve that goal, the key and the strength of the ummah is through the military institution of a nation-state. Therefore, every country needs to make preparation and built its own strength in order to defend religion, race and country. The military is an important aspect in Islam because it has a very close relationship with the aspect of national defense and the continuity of the resilient ummah civilization. A country will remain intact, strong, revered and respected when it has a strong military force (Jamil Khir, 2008).

Quality military personnel need a holistic and intergrated filling from a spiritual aspect in addition to physical, mental and intellectual strength. Spiritual strength guarantees the existence of spiritual combat power, operation and training and it at once becomes a very strong and solid fortress. Physical strength will ensure mobility and speed of action during operations and war whereas mental strength is a determining factor in a soldier's resilience to face test while coping with critical situations known as combat stress. In the context of the Malaysian Armed Forces (MAF), the Religious Corps of the Armed Forces (KAGAT) which was established on 16 April 1985 has served as a function of the development of Islamic spiritual aspects in fulfilling the needs and expectation as "Spiritual Catalyst of the Armed Forces". Thus, KAGAT is an organization that is directly responsible for implementing spiritual formation in the Malaysian Armed Forces. To ensure that military personnel become assets and have competent human capital to the MAF, a Physical, Emotional, Spiritual and Intellectual Program Module (JERI) was introduced to support and add value to the existing Fardu Ain Islamic Education (PIFA) module that helps in generating Islamic knowledge and education to military personnel.This module is intended to ensure military personnel are clearly aware of the Islamic law based on the core knowledge of Islamic education among members of the military to become a fortress for oneself and country (KAGAT, 2009).

Meanwhile according to MAF Inspektorat Jeneral (2020), spirituality is an internal element that is the driving force for individuals and organizations to function well and effectively, it is the result of the basic practice of true and pure life which is used as a foundation in organizing aspects of life and spiritual strength arises from a peaceful belief and consistent practice of the Islamic law so that it is integrated with the soul and body of the individual and becomes a culture in the organization.

OBJECTIVE

This research was conducted to analyze the effectiveness of the JERI module instrument among the Malaysian Armed Forces using the Rasch Measurement Model.

METHODOLOGY

This research was conducted using qualitative method and using survey design. Case studies were used to analyze the compatibility and difficulty of items in the JERI module effectiveness instrument. Researcher has conducted this survey study method on Muslim members of the Malaysian Army (MA) that dominates the population of the defense forces in the Malaysian Armed Forces by 87% (JRP, 2020).

LITERATURE STUDY

Physical, Emotional, Spiritual and Intellectual Module

The Physical, Emotional, Spiritual and Intellectual Module (JERI) is a form of national defense human capital formation module. It is implemented at the Malaysian Army Training Centre as per the implementation instructions issued by The KAGAT Directional Department every year (Jabatan Arah KAGAT, 2019). The JERI Module is a module to train and produce sustainable MA members having worked through intergrated training covering the four elements of human nature, namely physical, emotional, spiritual and intellectual in a balanced way. This is to realize the Malaysian Army's aspirations in building "spiritual combat power" and the resilience of human capital (Modul JERI 651, 2009). According to Azlisham's Master Project Paper (2018), the JERI Module consists of four development elements, namely; Physical development that aims to create awareness on one's weaknesess to change from negative attitude to positive attitude, Emotional development where it aims to raise awareness to be more trustworthy, responsible and loving to the Almighty and fellow beings, Spiritual development where this aspect also emphasizes spiritual excellence in order to form a superior character that meets the requirements of Islam and Mental development that aims to restore human thought to the nature of perfection of events based on faith, worship and good morals.

Malaysian Army

The fourth edition of Kamus Dewan Edisi Keempat (2015), has defined the military as an army consisting of soldiers and others trained to fight for security. The military is a group of professionals who are trusted by a country which generally consist of people in an organization full of discipline to do battle and differs from other civil society groups (Ammus Permuter, 1984) According to Fine S. E (1962), the military are those who are selected and paid by the government as well as equipped with the training and skills to fight in defending religion as well as national sovereignty. Thus, the military is a group of people who has certain skills and expertise prepared by the government to fight against the enemy and defend the country. In the context of this study, the Malaysian Army (MA) began by recruiting 25 young men into the Malay Regiment trial squad on March 1st, 1933. This regiment continued to develop into a full battalion known as the Malay Regiment First Batallion on the 1st of January 1938. The second battalion was established on 1st of December, 1941, six days before the Second World War began in Malaya. Both of these batallions have shown their abilities in the war against the Japanese army. After the country achieved its independence in 1957, the Malaysian Military continue to thrive and is well-equipped to fight the insurgency. Currently, the Malaysian Army is rapidly being modernized as a convensional military force capable of facing future challenges (Kementerian Pertahanan, 2020).

Rasch Measurement Model

The validity and reliability of test items can be determined though the Classical Test Theory (CTT) and Item Response Theory (IRT). The classical test theory is dependent on the abilities of the respondents (Blunch, 2008). If the questionnaire instrument is administered to a weak group of respondents, then the value of the difficulty index and discrimination index are low. On the other hand, if the test is administered to a group with high abilities, then the value index of difficulty and discrimination is high (Zeller & Carmines, 1980). Instead the one- parameter item response theory using the Rasch measurement model predicts a person's probability of answering a test item right or wrong depends on the individual's ability and item difficulty (Bond dan Fox, 2007; Chang, 2010; Demars, 2010).

The Rasch Measurement Model has the advantage of meeting the measurement requirements in which it is able to convert the raw score influenced by the item and the characteristics of the sample to a linear measurement having the same interval (Wright & Stone, 2004). This means that the Rasch measurement model can convert ordinal scales to interval scale forms based on logit values. The interval scale is better that the ordinal scale because the interval between the numbers is the same. For the interval scale, the size or width of the intervals between the numbers is known and the differences between the sequence numbers are the same along this scale.

In contrast to the ordinal scale, the gaps between the numbers are not necessarily the same (Siti Rahayah, 2008). According to Bambang dan Wahyu (2015), the raw data score is not the result of measurement as it is the feedback marked by the respondent from the administered instrument. The raw data is just the initial information which is nothing but a summary of the data in the form of numbers but does not provide data from the point of view of measurement. It is not linear. Therefore, approaches other than the use of raw score analysis are essential in the context of educational evaluation and social sciences. In addition, this is also needed to obtain additional information in terms of the abilities possessed by the respondent and to determine the quality of the given item. Thus, by applying the Rasch measurement model, the raw data of the test results are converted to a linear form based on the logit value by having the same interval. After this process, the data is ready to be interpreted because it already has the appropriate information on the respondent's ability and item quality. Various methods can be used in item analysis. Item analysis using the Rasch measurement model lists several psychometric determination steps and the quality of the items studied namely the compatibility (fit) items determined based on MNSQ infit value and MNSQ outfit. MNSQ (mean square) is a quadratic mean fit statistic. Item compatibility statistics show the extent to which a data is compatible with the Rasch measurement model. Inappropriate items indicate that they do not measure similar construct and are weak items (Siti Rahayah, 2008).

According to Bond & Fox (2015), low item outfit value suggests a sample respond is highly predictable when the sample's ability is far from the item. The low item infit value suggests that the item response is very predictable when the sample ability is close to the item. Meanwhile, the high value of the item outfit suggests an unusual response when the sample ability is far from the item. The high infit value of the item suggests that there is an unsual response when the sample ability approaches the item. The next step in determining item validity is item polarity analysis or item parallelism. A positive value parallel measure indicates that all items in the instrument fuction in parallel to measure the construct in the particular instrument. If there is an idex of negative value, the researcher needs to review the data whether it needs to be modified or dropped. Negative indicators indicate that there are items that contradict the variables studied (Linacre, 2012). The correlation point of the center of measurement (PTMEA) is also an early detection of construct validity (Bond & Fox, 2015). Items analyzed by Rasch measurement model cannot be dependent on each other. This means that the feedback may or may not be one item carries a meaningful meaning in terms of ability i.e latent traits being studied, not the other way around. Accordingly, there can be no correlation between the two items. If there is a correlation then there is an inaccuracy in the quality of the item. Leaning items can interfere with the realiability of the instrument. The intercorrelation between items is aimed at measuring the homogeneity of the items through instrument testing to help strengthen the validity of the construct. The correlation value between the measurements of the items should be low i.e less than 0.70 (Linacre, 2012) indicates local freedom. This means that no correlation exists between the items.

DISCUSSION

Preparation of Instrument

The researcher has built an instrument in the form of questionnaire of 40 items to obtain validation and reliability. The researcher has built construct and sub-constructs for instruments guided by experts in the fields of management, military operation and academicians directly involve with modules and training. Next, the researcher has carried out the process of determining and organizing the items of each sub-consruct that has been built. There are two main construct in this instrument; the first is the suitability of the module and the second is the effect of the module. There are 7 sub-constructs in this instrument namely; the suitability of the module syllabus, the suitability of the module in producing balanced military personnel of the world and the Hereafter, the effect of the module on the value of human relationships, the effect of the module on self-motivation and career, the effect of the module on the importance of worldly life with the Hereafter, the effect of the module on the awareness of the Afterlife and the effect of the module on pure values, supplication and main prayers in life.

Validity of Research Instrument and Validity of Research Content through the use of Expert Judgement

An instrument with high validity is an instrument that can measure what should be measured (Cresswell, 2007). This argument is also supported by Ghazali & Sufean (2016), that states an instrument has high validity if the degree of ability to measure what is supposed to be measured is high. In the context of this study, instrument validity refers to terms of face validity, content validity and construct validity. This validity refers to the level of accuracy or level of trueness of a study to show whether the data collected can represent and describe real phenomena. To determine the validity on the content of the questionnaire instrument, a reference panel was formed to determine the validity of the content and the suitability of the items used in this study instrument. The instrument content validation reference panel consists of experts who have extensive expertise and experience in the field of training in human capital development and human resources of national defense as well as the development of training modules and the field of da'wah in KAGAT. Validity process involving suggestions and remarks in terms of content, language use and clarity of meaning of this item is to produce a well-established instrument. All expert reference panels are appointed as judges to determine the relationship between the items of the instrument and the items that will be measured. After obtaining comments from the reference panel, researcher made modifications from terms and sentence structures on several statements in questionnaire instruments and interviews. Once these items have been agreed upon by all experts, the instrument is acknowledged to have a high degree (Abu Bakar, 1986). Factor analysis methods were implemented to ensure the authenticity of each construct in this study.

The content validity is done through a group of reference expert or expert judgment (Ghazali & Sufean, 2016). In the context of this study, the construction of the questionnaire used was tested through the content validity by referring to 4 experts in specific fields namely the field of da'wah and human capital development training of the MAF as well as the field of research and development of the KAGAT curriculum. The total of 4 experts coincided with Cresswell's (2007), argument, the ideal information is within 3 to 10 people. Each comments and reprimands received from these experts is taken into consideration and are applied to further strengthen the purpose, language and content of the questionnaire items used. Once the questionnaire gets expert consent and authentication as well as making improvements, the researchers distribute questionnaire instruments to the respondents. After going through the process, then finally the research instrument will go through action research.

Instrument Validity through Construct Analysis

Tests on data collected were performed using Bond & Fox Steps Software to view instrument's validity scores and feedback from respondents. A total of 306 respondents were tested and 40 questionnaire items were performed in this test showing a very high item validity score of 0.97 with the Cronbach Alpha (KR-20) value of 0.92. The validity of the respondents also showed a high score value of 0.81 for a total of 306 respondents with a record of 20 respondents counted as maximum extremes. The validity of these respondents was slightly increased to 0.82 if 20 respondents calculated as maximum extremes were excluded from the whole respondents. Due to the very small difference in value, a total of 306 respondents were taken into account in the analysis of this study. Based on Figure 1 below, the analysis of 306 respondents produced results equivalent to 11440 data sets and this further strengthens the results of the study conducted. This argument shows that the instrument used in this study is valid and reliable to be used to measure the objectives of this study. These findings also show that the level of reliability of respondents' feedback is also high and valid to be used in formulating findings for the objectives of this study.

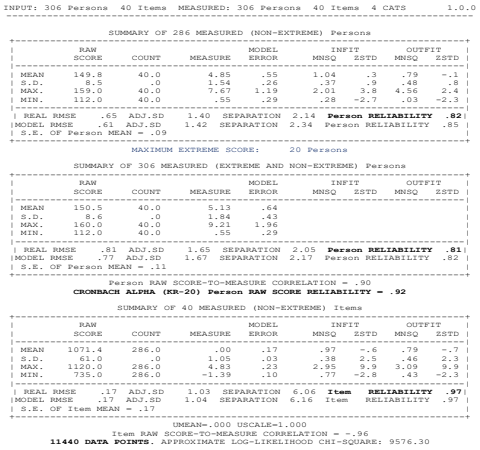

Figure 1: Statistic Summary

Item Analysis Instrument

Overall, there is one item that is the most difficult and the second most difficult to achieve in the JERI module. There are six items that failed to be fully achieved. The other items were fully achieved by the majority of the respondents. This can be seen in Figure 2 below.

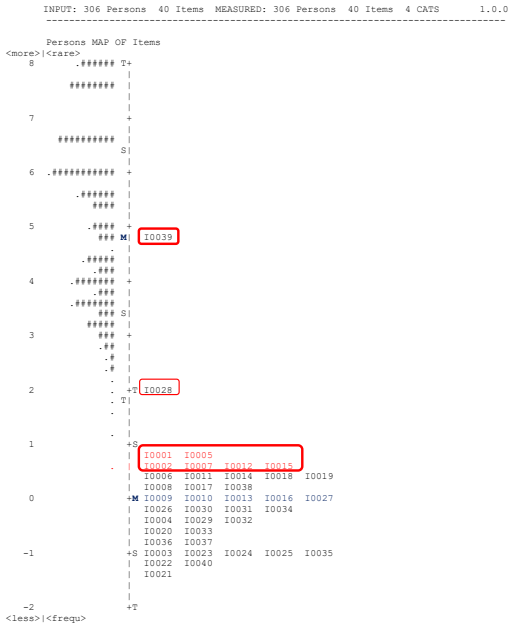

Figure 2: Item Analysis

Overall, the majority of the respondents met the objectives of all items in the JERI module with the mean of 4.85 logit. A total of 20 respondents achieved the highest logit score of 9.21 logit while a total of 159 respondents or 52% did not reach 1 item. There are 17 respondents or 5.5% that did not reach 2 items. There was one respondent or 0.3% who did not reach 8 items. Furthermore, a total of 147 respondents, namely 48% of the group, met the achievement of the implementation objectives of the JERI module. This is shown in Figure 3 below.

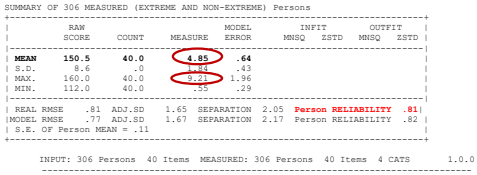

Figure 3: Mean Module Score

Analysis and Discussion of Specific Scope Findings of Each Dimension

The researcher will only analyze the construct discussion of the effect of the JERI module on the respondent and also analyze the findings of the study based on the dimensional scope of each item. With regards to the scope for the achievement of items in the category of dimensions of suitability of the JERI module consisting of 3 items, only one out of 360 respondents or 0.3% who do not agree with the suitability of the JERI module syllabus. This shows a significant conclusion that the suitability of this JERI module on the perception of respondents is very high at 99.7% as explained in Figure 4 below.

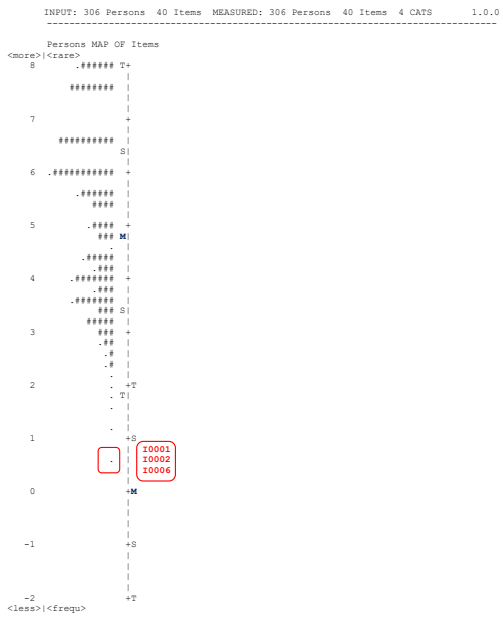

Figure 4: Suitability of JERI Module Syllabus

Within the scope of the achievement of items in the category of dimensions of suitability of the JERI module in producing balanced military personnel of this world and the Hereafter, there are 7 items in which only 1 from 306 respondents that did not achieved the 2 items dimensional objective with only 0.3%. This significant summary shows the suitability of this module in producing well-balanced military personnel of this world and the Hereafter with a high score of 99.7%, thus achieving the MAF spiritual development agenda on the perception of respondents. A total of 306 respondents or 100% have achieved the objective of 5 items. This further summarized the suitability of the JERI Module in the context of producing balanced military personnel of this world and the Hereafter, with a very high respondent perception of 100%. This is stated in Figure 5 below.

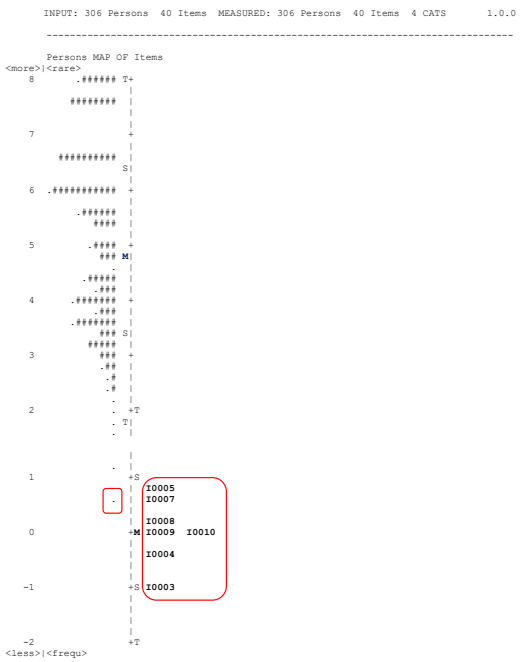

Figure 5: The Suitability of JERI Module in Producing Balanced Military Personnel of this World and the Hereafter

For the scope of achievement of 3 items in the dimensional category of effects of the JERI Module on the value of human relations, a total of 156 respondents have achieved the 1 item objective at 51%. Another 15 respondents have achieved 2 items or 4.9%. This shows that the objective to produce positive traits is still not fully achieved through the JERI Module with only 4.9%. This analysis also shows that this module still has room for improvement in the context of constructing a positive attitude. On the other hand, the objective of building the spirit of brotherhood and positive attitude is very effective with the 100% achievement of the respondents. This is shown in Figure 6 below.

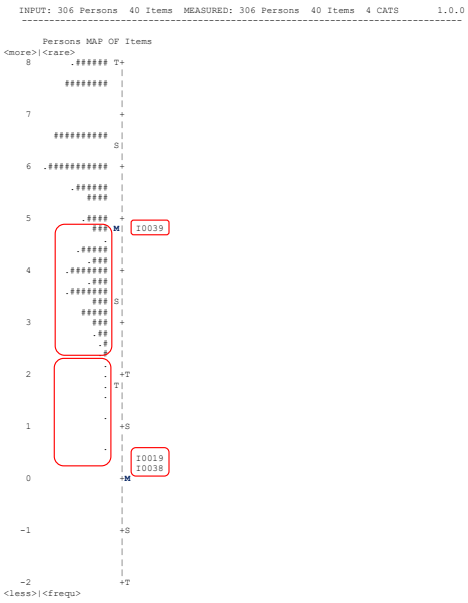

Figure 6: The Effect of JERI Module on the Value of Human Relationship

Similarly, the scope of achievement of the items in the dimensional category of the effect of the JERI module is at 3 items. A total of 305 respondents or 99.7% have achieved the maximum objective of 1 item and a total of 306 respondents or 100% have achieved the 2 item objective. This shows a significant conclusion where the suitability of this module in injecting the motivation of military personnel in performing their duties on the perception of participants is very high at 100%. This is shown in Figure 7.

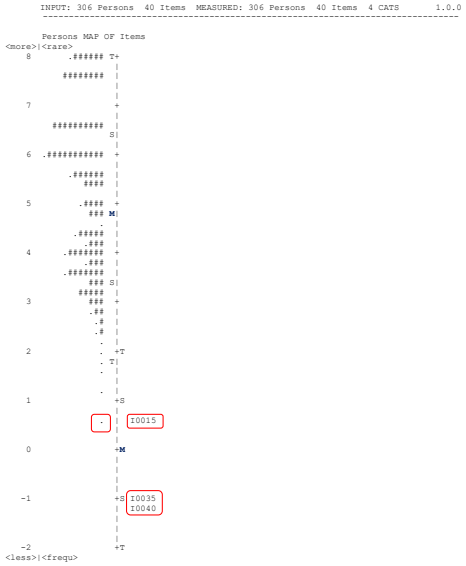

Figure 7: The Effect of JERI Module on Self Motivation and Career

The scope for the achievement of items in the dimensional category of the effect of the JERI module on the importance of worldly life and Hereafter is at 4 items. A total of 306 respondents or 100% have achieved the maximum objective of the dimensions of 4 items. This shows that the JERI module has

the significance in producing military personnel who are aware of their positions as servants of Allah in this world and are always watched upon by Him and repentence, as a mean to return to Allah, can offer salvation in this world and the Hereafter. This is shown in Figure 8.

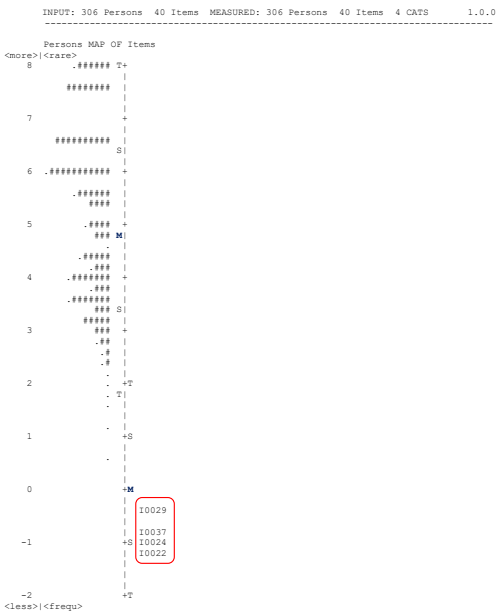

Figure 8: The Effect of JERI Module on the Importance of Worldly Life and Hereafter

The scope of achievement of items in the dimensional category of the effect of the JERI module on the awareness of the afterlife is at 3 items. A total of 7 respondents out of the 306 respondents or 2.3% did not achieve 1 item while a total of 306 respondents or 100% have achieved the objective of the effect of 2 items. This shows a significant conclusion where the suitability of this JERI module in giving awareness and confidence to participants that death may come at any given time on the participant's perceptions is high at 97%. In the context of the ability of this JERI module in giving confidence to understand the position of the Hereafter and death and the rememberance of death is very high at 100%. This is shown in Figure 9.

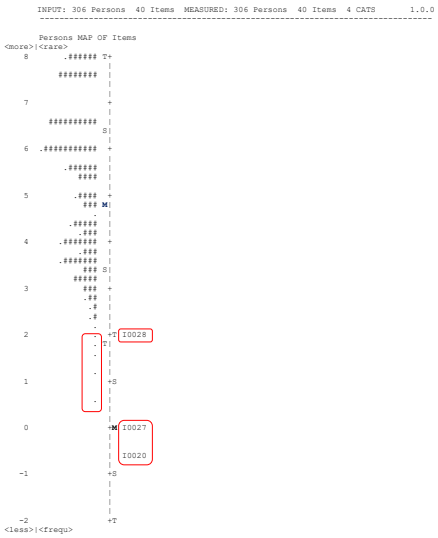

Figure 9: The Effect of JERI Module on the Awareness of the Afterlife

Lastly, in the scope of achievement of items in the dimensional category of the effect of the JERI module on pure values, prayers and supplications as the basis of life, items are at 17 items. All 306 or 100% of the respondents have achieved the maximum objective with 16 items. Only one respondent or 0.3% did not achieve 1 item. This shows that the JERI module is able to affect participants on the importance of pure value, supplication and prayers as the foundation in life. It can be seen through Figure 10 below.

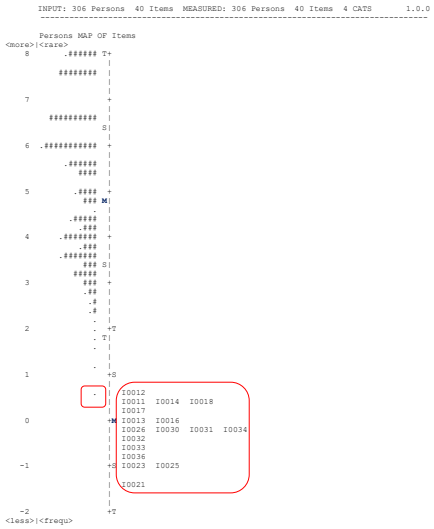

Figure 10: The Effect of JERI Module on Pure Values, Supplication and Prayers as Foundation in Life

CONCLUSION

The application of the Rasch Model Analysis in determining the validity, reliability and compatibility of items serves as an alternative to the classical testing theory. Validity and reliability are important elements in preparing question items. The questionnaire instrument in measuring the effectiveness of the JERI module is high based on the terms of validity, reliability and compatibility of items, thus can ultimately provide thorough results in formulating significant effectiveness through the implementation of JERI module in the Malaysian Armed Forces with importance of worldly life with the hereafter, pure values, supplications and prayers in life, followed by motivation, career, the value of human relationships and awareness of the afterlife.

ACKNOWLEDGEMENT

The appreciation of writing this article is dedicated to my Main Supervisor at the Academy of Contemporary Islamic Studies (ACIS) Universiti Teknologi MARA (UiTM), Associate Prof. Ts. Dr. Mohd Nor Mamat and my Co-Supervisor at Universiti Pertahanan Nasional Malaysia (UPNM), Lt. Col. (R) Associate Prof. Dr. Daud Mohamed Salleh on the fruit of the mind in the successful writing of this article. Similarly, The Military Religious Corps and the Malaysian Army is not excluded for supporting and subsequently sponsoring my postgraduate studies at ACIS UiTM in 2019 until 2022.

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