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**Investigating Students Characteristics and Gender Differences  
Based on Multiple Intelligences Tendency**  
(A Study Held on Seventh Grade Students of SMP Negeri 4 Randangan Satu Atap,  
Pohuwato Regency, Gorontalo)

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### Abstract

Students various characteristics need to be identified and facilitated at the first year in junior high school to determine their learning preferences and difficulties. This study aims to investigate: (i) students characteristics based on their multiple intelligences (MI) tendency; (ii) gender differences on their MI tendency. The study was held on twenty-seven students of grade seven (eight males and 19 females) at SMP Negeri 4 Randangan Satu Atap in 2021-2022 academic year by using one-shot descriptive survey method. The MI inventory result showed that interpersonal intelligence was strongly developed and the other seven intelligence were developed. Demographic background was contributing to the dominance of the three intelligences (interpersonal, naturalist, and verbal linguistics) as these three types of intelligence become the foundation of how these students who come from families of farmers, fishermen, and small traders living in rural area solve problems and produce works to live their daily lives. Even though the Kruskal-Wallis test showed no gender differences in all the eight intelligences, the item analysis showed that female and male respondents are different in 23 items. Males showed more interest in more expressive, active, and analytic activities, while females are better in items related to self-regulation. The information from MI Inventory can be an initial data for English teacher to decide which activities to include as learning input to match with students preferences. It is the first phase of need analysis to develop such an MI-based student-centred learning.

### Keywords

multiple intelligences, tendency, gender differences, instruction.

### Abstrak

Keragaman karakteristik siswa perlu diidentifikasi dan difasilitasi pada tahun pertama di sekolah menengah pertama untuk menentukan preferensi dan kesulitan belajar mereka. Penelitian ini bertujuan untuk menyelidiki: (i) karakteristik siswa berdasarkan kecenderungan kecerdasan majemuk (MI) mereka; (ii) perbedaan gender pada kecenderungan MI mereka. Penelitian dilaksanakan pada dua puluh tujuh siswa kelas tujuh (delapan laki-laki dan 19 perempuan) di SMP Negeri 4 Randangan Satu Atap pada tahun ajaran 2021-2022 dengan menggunakan metode survei deskriptif sekali tembak. Hasil MI Inventory menunjukkan bahwa kecerdasan interpersonal sangat berkembang dan tujuh kecerdasan lainnya pada level berkembang. Latar belakang demografis berkontribusi dalam dominasi tiga kecerdasan (interpersonal, naturalis, dan linguistik verbal) karena ketiga jenis kecerdasan ini menjadi dasar bagaimana para siswa yang berasal dari keluarga petani, nelayan, dan pedagang kecil yang tinggal di daerah pedesaan memecahkan masalah dan menghasilkan karya untuk menjalani kehidupan sehari-hari mereka. Meskipun tes Kruskal-Wallis tidak menunjukkan perbedaan gender dalam kedelapan kecerdasan tersebut, analisis item menunjukkan bahwa responden perempuan dan laki-laki berbeda dalam 23 item. Laki-laki menunjukkan lebih banyak minat pada kegiatan yang lebih ekspresif, aktif, dan analitik, sementara perempuan lebih baik dalam hal-hal yang berkaitan dengan pengaturan diri. Informasi dari MI Inventory dapat menjadi data awal bagi guru bahasa Inggris untuk memutuskan kegiatan mana yang akan dimasukkan sebagai input pembelajaran agar sesuai dengan preferensi siswa. Ini adalah fase pertama analisis kebutuhan untuk mengembangkan pembelajaran yang berpusat pada siswa berbasis MI.

### Kata kunci

kecerdasan majemuk, kecenderungan, perbedaan gender, pembelajaran.

## Introduction

Since its outbreak in Indonesia on March 2020, Covid-19 pandemic has suddenly put teachers into facing various stressful problems in teaching learning process. The most common ones revealed from the experience of (Ariyanti, 2020) whose distance learning had to be adjusted to students condition of having no gadget to support an online learning; huge numbers of students leaving the class because of the incapability to fulfil school need to join the class through Google Classroom and WhatsApp Messenger; and some other reasons from students related to parents income which at that time affect their capability to join the online class.

Similar to Ariyantis experience, some English classes I ran this year dealt with student engagement as well. For seventh grade students at Randangan One-building Elementary & Junior High School No.4 (Hereafter: SMP Negeri 4 Randangan Satu Atap) in 2021-2022 academic year who underwent their first day of the class in online mode through some messaging platform, being engaged to the English class was not easy. Having been unexposed to English learning since they were in elementary school made these students difficult to cope with the first basic competency.

In facilitating students characteristic in learning, there are two options for theoretical consideration to apply as a foundation, namely Learning Styles theory, and Multiple Intelligences theory. A research and development of Gayatri (2019) had promoted learning styles as a theoretical base for developing English writing materials. Unavailability of proper textbook, monotonous learning activities, and incapability of creating a self-developed material motivated her to integrate learning styles in facilitating learners need. The selected design come to a conclusion that the promoted learning styles-based material was significantly effective. Meanwhile, Arulsevi (2018, pp. 101-119) suggests the incorporation of Multiple Intelligences (hereafter: MI) in the English classroom. She concludes that in addition to creating authentic learning based on students needs, interests, and talents, MI also effective in improving students academic performance.

Quasi-experimental research of (Husain, 2018) confirms how MI-based activities (MIBA) used to accommodate diversity in promoting students writing performance. The application of MIBA was set in forms of series of activities applied to university students. The research found that there is a significant difference between writing performance of the students in which MI-based activities applied and those with conventional teaching methods.

Multiple Intelligences theory offered broader perspectives on students characteristics diversity compared to learning style. However, to promote the application of MI into learning activities as the aforementioned research, it is important to administer an MI Inventory to determine students learning preferences based on MI theory. The MI Inventory is a questionnaire designed based on the eight intelligences promoted by Howard Gardner in order to explore the intelligences tendency and learning preferences.

Unfortunately, such an inventory to explore and documented students diversity was not provided at SMP Negeri 4 Randangan Satu Atap. As a result, teaching-learning process was not undergone based on students need and learning preferences. Therefore, the only students information can only be observed from DAPODIK data. Teachers have no detailed information about students characteristics involving their learning preferences, learning difficulties, and including how male and female students behave or misbehave within their daily life activities. The result will be a milestone to an integration of MI into the learning activities.

## Methods

The present research applied a one-shot survey study by using MI Inventory as a main instrument toward twenty-seven students of grade seven (8 males and 19 females) at SMP Negeri 4 Randangan Satu Atap in 2021-2022 academic year. The MI Inventory adapted that of Ishak (2013) based on multiple intelligences checklist developed based on (Armstrong, 2009) and McKenzie (2005). Following suggestion from (Creswell & Creswell, 2018) it is important to include validity of scores from the past use of the MI inventory. The instrument has significant values of aspect-to-total correlation with  $r = 0.654-0.822$  which are significant at 0.01 or 99% of significance level. In terms of reliability, there is a need to an omission of nine criticized items based on a test of Cronbachs alpha if item deleted, means that the Cronbachs alpha value will increase if such items deleted. The internal consistency analysis can be observed below:

Table 1

*Internal Consistency Values of MI Inventory*

The Eight Intelligences	Cronbachs Alpha	Criticised Items
Naturalist Intelligence	0.653	No. 6
Musical Intelligence	0.553	No. 2 & 16
Logical-mathematical Intelligence	0.677	No. 21
Interpersonal Intelligence	0.698	No. 42
Bodily-Kinaesthetic Intelligence	0.607	-
Verbal-Linguistics Intelligence	0.705	No. 61
Intrapersonal Intelligence	0.532	No. 50
Visual-Spatial Intelligence	0.629	No. 70 & 77

(Ishak, 2013, pp. 76-78)

The MI Inventory were tested in terms of normality to determine whether or not the data were normally distributed. Because the N is less than 50, the Shapiro-Wilk model was used to identify the normality value with a level of significance at the 0.05. The model requires the significance value to be equal or higher than 0.05 to be categorized as normally distributed. The data, then, were set into percentage to be easily interpreted by using the following criteria:

**Table 2**

*The Interpretation of MI Tendency*

Interval (in percent)	Tendency Level
81-100	Strongly Developed
61-80	Developed
41-60	Sufficient
21-40	Weakly developed
≤20	Undeveloped

The MI inventory results were also be investigated in terms of gender differences in order to determine differences of conditions to be set on instructional settings for gender-sensitive activity by performing a Kruskal-Wallis test.

**Result and discussion**

Twenty-seven students of grade seven (8 males and 19 females) in 2021-2022 academic year was involved in this research. The participants are selected purposively due to the existence of the research problem within this group.

Coming from diverse background makes these students varied in terms of characteristics. It is reported in school database that the seventh-grade students of SMP Negeri 4 Randangan Satu Atap are 33% from Pelambane village (where the school is resided), 48% from Sidorukun village (a neighbour to Pelambane, about 200 to 1000 m from school), and 19% from Wanggarasi village in Wanggarasi Subdistrict (about 1 to 3 km from the school). Ones from Pelambane and Sidorukun can reach school on foot while those from Wanggarasi should take motorcycle as a main transport.

Born in multi-religion village, the students are used to interact and live in tolerance. Sixty-seven percent of seventh-grade students are Muslims living side by side with 22% Christians, and 11% Hindus. It is common to find Muslims in Pelambane and Sidorukun to get involved in helping Christians preparing for Christmas, or followed an *Ogoh-ogoh* (Bali giant puppet) festival in *Nyepi* (Balis Day of Silence) or vice versa; Christians and Hindus visit Muslims houses to celebrate Eid.

Moreover, these students are parts of different economic background based on their parents occupation. Even though the data showed that 74% of their fathers occupation is farmer, an interesting fact that could be highlighted is that 63% of mothers occupation is not specified and 26% of them have none. Going further to parents educations, 61% of parents went to elementary school while other 6% were dropped out; 22% junior high school, 7% senior high school, and the rest 4% had not exposed to formal education.

The demographic information showed how these students cope with differences, live within diversity, deal with various economic background, and step forward to have higher education that their parents had.

### The result of MI Inventory

To begin with, the MI inventory was administered to seventh grade students (the respondents) which was offered in two versions, English and Bahasa Indonesia. The respondents felt comfortable to fill the MI inventory with Bahasa Indonesia version to ease them to understand the context of questionnaire items.

In terms of construction, the MI inventory items were elaborated into 80 items of the eight intelligences. However, by considering the internal consistency value nine items were removed to increase the reliability of the instrument. The administration was held on March, 2<sup>nd</sup> 2022 toward 27 students of Class VII of 2021-2022 academic year at SMP Negeri 4 Randangan Satu Atap with 100% of response rate.

From the normality test it was observed that there were four of the eight intelligences: Musical Intelligence (0.06), Logical-Mathematical (0.123), Interpersonal (0.263), and Visual-Spatial (0.920), were normally distributed. The result implied that Kruskal-Wallis model was appropriate to be used in analysing gender differences for the subsequence analysis.

Going further into the descriptive statistical analysis toward the MI inventory result, there was no significant differences in terms of mean value among the eight intelligences being measured. Considering the percentage gained in the eight intelligences, and following the criteria in MI Tendency, seven of the eight intelligences are Developed and one of which namely Interpersonal Intelligence was Strongly Developed.

Sorted largest to smallest, the MI tendency of the respondents from Class VII of 2021-2022 academic year at SMP Negeri 4 Randangan Satu Atap were Interpersonal Intelligence (81%), Naturalist Intelligence (76%), Verbal Linguistics Intelligence (73%), Visual-Spatial Intelligence (72%), Intrapersonal Intelligence (71%), Bodily-Kinaesthetic Intelligence (69%), Musical Intelligence (66%), and Logical-Mathematical Intelligence (66%). The minimum score was resided in Musical Intelligence where the maximum was in Bodily-Kinaesthetic Intelligence. Those of which can be summarised as follow:

**Table 3**  
*Descriptive Statistics of MI Inventor*

	N	Minimum	Maximum	Mean	Percentage	Tendency Level
NT	27	16,00	44,00	34,1852	76%	Developed
MS	27	12,00	34,00	26,5556	66%	Developed
LM	27	17,00	42,00	29,5185	66%	Developed
INTER	27	29,00	43,00	36,5926	81%	Strongly Developed
BK	27	19,00	48,00	34,4815	69%	Developed
VL	27	24,00	39,00	32,7037	73%	Developed
INTRA	27	17,00	40,00	32,0000	71%	Developed
VS	27	18,00	38,00	28,7778	72%	Developed
Valid N (listwise)	27					

Considering the normality was violated, where four of the eight intelligences were not normally distributed; gender differences analysis was performed by using Kruskal-Wallis test with Asymp. Sig. should be lower than 0.05 to be interpreted as significantly different (Chavarría-Garza et al., 2022). From the test, it is obvious that there were no significant differences among the eight intelligences in terms of gender. The data showed high Asymp. Sig with the highest in Bodily-Kinaesthetic Intelligence showing 1,000 which considered as zero differences. The table below describes the Kruskal-Wallis test with Gender as the grouping variable.

**Table 4**  
*Kruskal-Wallis Test on Gender Differences within MI Tendency*

Test Statistics <sup>a,b</sup>									
	NT	MS	LM	INTER	BK	BL	INTRA	VS	

Kruskal-Wallis H	0,160	0,001	0,018	1,928	0,000	0,702	0,035	0,518
df	1	1	1	1	1	1	1	1
Asymp. Sig.	<b>0,690</b>	<b>0,979</b>	<b>0,894</b>	<b>0,165</b>	<b>1,000</b>	<b>0,402</b>	<b>0,852</b>	<b>0,472</b>

a. Kruskal Wallis Test  
 b. Grouping Variable: GENDER

Even though the Kruskal-Wallis test showed no differences when gender has been put as a grouping variable, the item analysis revealed that female and male respondents showed differences in twenty-three items. The result was taken by grouping the responses based on gender and then comparing the percentage in every item in the inventory. The twenty-three items are distributed in all the eight intelligences: one item in naturalist intelligence, one in musical intelligence, four in logical-mathematical intelligence, two in interpersonal intelligence, three in bodily-kinaesthetic intelligence, six in verbal-linguistics intelligence, four in intrapersonal intelligence, and two items in visual spatial intelligence.

Female respondents perceived their selves better than males in items related to self-regulation, reading activity, being a natural leader and learning foreign language through song. Meanwhile, males are better in items related to more challenging activities involving movement and physical strength, verbal and written communication, strategy games, dan science-related subjects. A very noticeable difference is in the item in verbal-linguistics intelligence, where males communicate to others in a highly verbal way rather than females. On the contrary, females enjoy listening to the spoken word (stories, commentary on radio/podcast) more than males did. The details can be observed below:

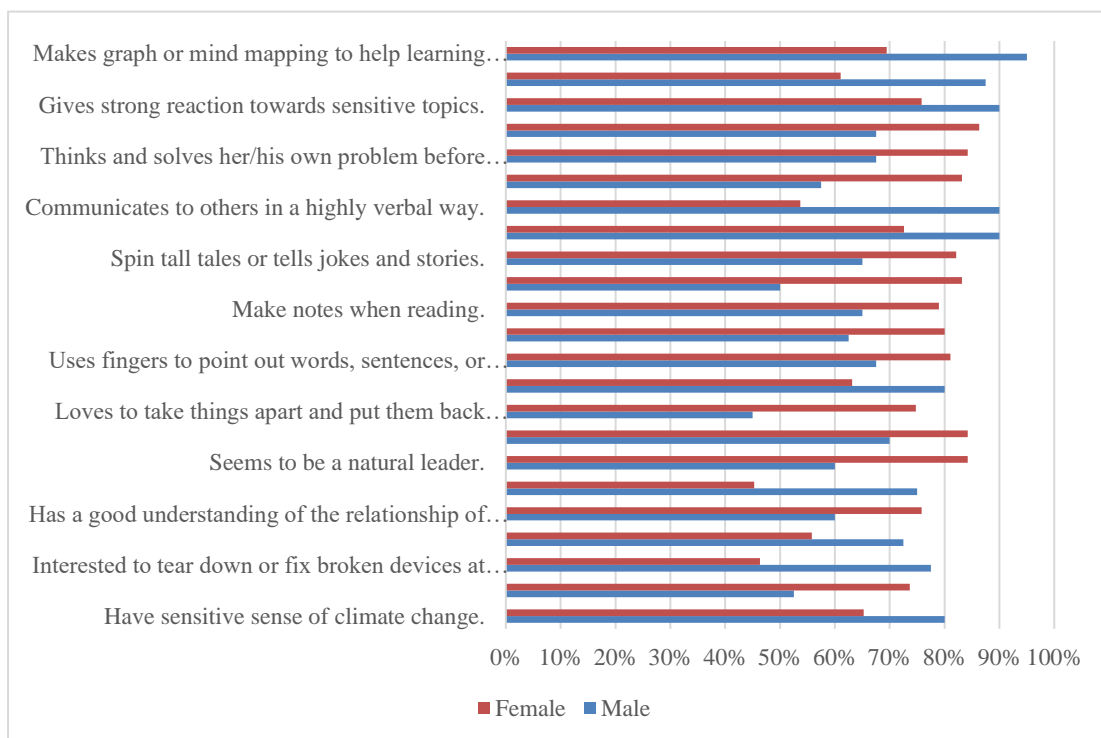


Figure 1. Item Analysis on Gender Differences

### A Highly Interpersonal Students and the application of MI within English learning

MI inventory is the initial instrument needed to identify students tendency on Multiple Intelligence. This instrument provides information about the profile of student intelligence which becomes data for teachers in understanding the characteristics of their students. This is done before integrating Multiple Intelligence into learning.

MI inventory data showed respondents tendency towards interpersonal, naturalist, and verbal linguistic intelligence. When taken from different cultural backgrounds, the inventory may show different results. In a study by Ali et al. (2021) by consulting the mean values, the three intelligences that got the highest scores were interpersonal, logical-mathematical, and visual-spatial intelligence. The data showed similarity in terms of how interpersonal intelligence is favored among the respondents.

By looking at the demographic information of respondents of the present study who come from families of farmers, fishermen, and small traders living in rural areas, these three types of intelligence become the foundation of how these students solve problems and produce works to live their daily lives. The profession of farmers, fishermen, and small traders requires interpersonal and verbal linguistics intelligence to communicate well to build social relationships. In addition, sensitivity to nature, including how to respond and solve problems, is needed by people living in rural areas.

To confirm this, several items are added to the MI inventory. The item related to the daily activities of the respondents after school. Overall respondents revealed that their activity after school was to help parents with diverse activities. Female respondents tended to help with housework such as washing dishes, cleaning the house, then continued with washing their own clothes. Male respondents tended to help their fathers in activities that involved more physical activity such as *ngarit* (finding and cutting grass) to feed cows, caring for livestock, and joining their parents at fish pond. After these activities, female respondents chose to take a nap, while male respondents chose activities that also involved physical activity, namely playing football, *takraw* or playing competitive online games.

These three dominant intelligences are useful for the teacher to be the initial information about how these students think and respond to problems that occur in real life including the tendency of learning styles. From the MI inventory data shown above, there is no striking gradation between one intelligence and another. This indicates that the learning preference of these students are very diverse. This diversity requires teachers to provide diverse inputs as well. The application of MI theory in learning can help make this happen.

MI theory provides an opportunity for teachers to explore more about language input with a variation of methods, materials, and techniques that suit to diverse characteristics students have. (Armstrong, 2009, p.56). The assumptions had been confirmed by numerous researchers who created instructions grounded from MI theory. Winarti et al. (2019) studied about the effectiveness of MI-based teaching strategy in enhancing the multiple intelligences and Science Process Skills (SPS) of 124 of junior high school students. The control group was taught using traditional strategies such as lectures, demonstrations and group discussions whereas the experimental group was taught using MI-based teaching strategy that was designed based on a series of instructional events by Gagne (1977). The researchers found that MI-based strategy has effectively improved students SPS score significantly. Students in the experimental group showed an improvement in five types of intelligence, namely intrapersonal, kinesthetic, visual-spatial, interpersonal and musical. In contrast, the control group students showed little improvement in three types of intelligences, namely kinesthetic, interpersonal and linguistics intelligences. It is reported that the improvement is due to repetitive MI-based learning activities that help teachers to determine the most suitable strategy to be used in order to facilitate diversity on students MI profile. Moreover, it is found that students emotional and creative thinking ability are also enhanced.

In line with Winarti et.al, the action research by Yaumi et al. (2018) was designed to investigate teachers performance, its improvement after following the workshop on designing student-centered instruction as the implementation of MI-based learning, and the students response after implementing the mentoring system through MI-based learning in the classroom setting. involving 126 teachers (informants) as trainees and instructional design members, from 10 elementary Madrasah in Indonesia, 36 of them were mentored, and 192 students participated in a focus group discussion. It is reported that after training, designing, and mentoring, teacher performance showed significant improvement which can be observed from their ability to design lesson plans, learning materials, and learning strategies. The improvement results students positive response in terms of attention, retention, confidence, and satisfaction in learning.



(Klee et al., 1986) criticize the application of MI in language teaching for its lacks on basic elements related to any existing language and/or language learning theories. Language in MI view is not limited to linguistics process but also integrated with music, bodily activity, interpersonal relationships, as multiple ways of learning in perceiving the language. The view puts more emphasizes on the development of strategy in learning based on students intelligence preference rather than directly learn the language in hope that students can perceive language input in multiple ways and they could determine the best strategy on their own.

Sadeghi & Farzizadeh (2012) confirms the critics from Richard and Rodgers finding that MI did not have significant relationship with writing ability of the participant. It is reported that ones research was in line with the findings of Ramjoo (2008) who showed no significant correlation in the exploration of relationship between language success and MI. Nevertheless, Sadeghi and Farzizadeh still suggests the application of MI in the instruction due to its capability to differentiate learning activities catering to diversity of students learning needs.

Move into English teaching and learning, MI is quite popular in Middle-East researchers. Sadiq (2019) criticizes the use of objective test at Baghdad University as he found that there is less significant correlation between the analytic domain of MI and the objective English test. Sadiq suggests to replace objective tests with alternative ones that based on students ability and intelligence such as continuous long-term assessment, untimed, free-response format, individualized test and creative answers. However, in terms of willingness to communicate in L2 in Iranian context, Mohammadzadeh & Jafarigohar (2012) found that MI profile of learners of English has a significant correlation with their willingness to participate in L2 communication and that the link between MI and WTC is affected by gender.

Another experiment held by Naeini (2015) towards Iranian TEFL university was emphasizing students on comparing the effects of two facets of multiple intelligences theory on developing EFL learners listening. The researcher compares listening scores on TOEFL between the experimental groups (EG1; N=30) worked on activities across intelligences and the other experimental group (EG2; N=30) focused on the activities related to their most developed intelligence. It is found that EG1 outperforming EG2, indicating that integration of MI can significantly contribute to the enhancement of EFL learners listening comprehension and the effect is even more significant if teachers practice an integration of all intelligences rather than the most developed ones, only.

Still in Iranian learners context, Abbassi et al. (2018) apply MI as a basic consideration to explore the effect of memory strategy on EFL learners vocabulary retention. The result was in line with Naeini (2015); from the experiment toward 80 male and female EFL learners of intermediate level, it is reported that experimental groups vocabulary retention was statistically improved; and there was positive relationship between existential, linguistic and spatial intelligence scores and vocabulary scores. The researchers suggest teachers to exploit MI and modify teaching-learning activities to improve students vocabulary retention even though ones admitted that replication in a longer period of time with a large number of subjects is needed in order to be more generalizable.

Moving into Indonesian context, aforementioned research results of Winarti et al., (2019) and Yaumi et al. (2018) are related to the present study in terms of the application of MI in instructional designs. Furthermore, an experiment of Husain (2013) went deeper not only as an investigation toward MI relationship with EFL, but also put it as the built-in strategy to promote writing performance of the 4th semester of English Department students of Gorontalo State University. She designed a so-called MIBA (Multiple Intelligences Based Activities) applied in quasi-experimental design to compare writing performance between experimental and control group. She found that group taught using MIBA outperformed control group taught by using conventional teaching method.

### On Gender Differences in the MI Profile

The results on the Kruskal-Wallis test showed no significant differences among the eight types of intelligence when gender was used as a variable in measurement. This result is in line with a study of Ansarin & Khatibi assessing the role of gender as a variable to investigate the relationship between MI and language learning strategies of 303 Iranian EFL learners. The results showed that there was no significant difference in MI scores between male and female participants even with positive difference between the MI scores and different proficiency levels. (Ansarin & Khatibi, 2018). The similar result showed in Jordanian context showing no differences attribute to gender among Students of Jordan University of Science and Technology (Ayasrah & Aljarrah, 2020). This also happened among teachers in Turkish context. (Bayram & Özge Yüceloğlu Keskin, 2020)

In contrast with Ansarin & Khatibi, a significant difference between genders was documented in a study of Al-Hosni & Al-Manthari among the ninth-grade students in the North Al Batinah Governorate in the Sultanate of Oman. The study showed that female scored better than male in visual-spatial and intrapersonal intelligence, claiming that females are more likely to process visual stimuli due to the superiority in using the left brain. (Ali et al., 2021).

Nevertheless, the results of the item analysis as presented in the results section, there were striking differences in preferences between male and female respondents in the 23 items. Female respondents are better in self-regulation, reading activity, being a natural leader and learning foreign language through song while males are better in movement and physical strength, verbal and written communication, strategy games, dan science-related subjects.

Female respondents are good in self-regulation by showing preference toward learning from failures, solving own problem before asking for help, making regular activity schedules, making notes, enjoying reading books, telling how someone feels, and being a natural leader. The similar findings revealed by Matthews et al. that in their study towards kindergarten students, female respondents outperformed male in self-regulation by using objective direct measure and teacher report of classroom self-regulatory behavior (Matthews, J. S.; Ponitz, Claire Cameron; Morrison, 2009).

The MI tendency of female respondents in the present research leads to the ability to live more regularly in organizing information, facing and solving problems, and being a leader over their selves in responding to failures they encountered. Moreover, to support this self-regulation female showed interest in understanding cause and effect relationship as a part of logical thinking that may help them to deal with problems; learning foreign language through song to enjoy the process of learning itself; and even telling jokes and stories to friends in order to stay connected to people around them. Female respondents tendency toward those items emerged due to their duty in everyday life to help their parents with housework such as washing dishes, cleaning the house, then continued with washing their own clothes.

On another hand, male respondents tend to be more expressive in representing themselves. This is indicated by their preference in giving strong reactions in communication, and communicating more in verbal ways; better in writing; and paying more attention to acting and moves when watching movie. Males are also more active and analytic in responding problems. They showed more interest in strategic games, tearing down and/or fix things, mind mapping, science subject, navigation, and sensitivity to climate change. In everyday life, male respondents tended to help their fathers in activities that involved more physical activity such as *ngarit* (finding and cutting grass) to feed cows, caring for livestock, and joining their parents at fish pond.

The diversity of students characteristics and gender differences based on MI tendency represented by the findings in this study is a part of need assessment in order to integrate multiple intelligences activities into English learning activities. The MI inventory result will be compared to the need assessment questionnaire result to get a broader description of students learning need. The information will be the data of students profile to be a foundation to build an MI-based English learning.

By understanding what students want and how they respond to information to manage problems in life, teachers can bring context in learning activities closer to the students lives. In this way, the selected material and learning resources will be adjusted to the real-life context so that it becomes authentic material. In English



instruction, the tendency to solve problems individually as indicated by the female respondent can be a reference for the selection of the form of the task in the lesson. Meanwhile, male preferences in science related subject can help to provide broader perspectives in English learning. Teacher can provide more materials and input based on how these students perceive their surroundings. The interest in strategic games, navigation, and ability to make predictions can help teachers to provide English learning activities related to logical thinking and problem solving.

### Conclusions

The MI inventory in this study showed that the respondents have interpersonal intelligence, verbal linguistics, and naturalist intelligence as their dominant intelligence. The intelligences represent the background of respondents who live in rural areas, have intense chat within their social community, and are close to nature in everyday life.

Although statistically there was no significant difference in MI tendency between female and male respondents, the item analysis results showed 23 items that showed the uniqueness of each gender. The differences are representation of how male and female which intelligence they need to solve problem and do daily activities. Males are more physical and expressive, while female with housework activities they face every day showed more capability in terms of self-regulation.

As a part of need assessment, the data from MI inventory in this study give an implication for teachers to build more comprehensive and personal profile of the students. For students themselves, it is important and helpful to understand their MI tendency so that they can understand in what aspects their strengths resided, and which parts of intelligence they can improve to minimise their weaknesses. With the information, teacher can design learning activities based on students MI tendency. At the same time, students understand the best way of learning they may choose to apply their intelligence strengths. The integration of MI in learning activities elicit students engagement because they know what to do within learning activities, not only doing what they are asked to do.

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