AN INVESTIGATION INTO THE ALIGNMENT OF ACTIVITIES IN ENGLISH 10 TEXTBOOK AND UPPER-SECONDARY SCHOOL STUDENTS' MULTIPLE INTELLIGENCES PROFILES

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Abstract: This study assessed the alignment between students' intelligence profiles and multiple intelligences-based activities integrated into the textbook. The research involved active participation from 60 10th-graders at a upper-secondary school in Phu Yen province. Data collection utilized the MI profile inventory, an assessment tool based on a 5-point Likert scale. Additionally, the activities presented in the current textbook used (English 10 - Global Success) were thoroughly analyzed. All collected data were processed using both quantitative and qualitative methods, employing descriptive statistics and SPSS software for analysis. The findings revealed both alignment and disparity. While some intelligences were similar, such as Logical-Mathematical and Intrapersonal, others like Verbal/Linguistic, Visual/Spatial, Interpersonal, Bodily-Kinesthetic, Musical, and Naturalistic showed significant differences. This underscored the need to accommodate diverse learning styles and intelligences in English language instruction for a more effective learning environment. The research also proposed improving students' language skills by integrating multiple intelligences and providing activities crafted from the perspective of MI theory.

Keywords: Multiple intelligences activities, textbook, tenth graders, upper-secondary school

1. Introduction

The significance of English has become globally recognized, with the majority of non-native speakers expressing a keen interest in learning it due to its importance and status as a global language, particularly for gaining access to modern advancements in science and technology.

English widely used in many fields such as economics, politics, culture, education, science, and technology... In addition, English is the language of instruction at all levels of education in Vietnam. Mastering English helps Vietnamese students access advanced education programs, improve the quality of learning, and have more career opportunities. Improving English proficiency makes Vietnamese people more confident, enhances their self-worth, and promotes personal development in life.

In addition, learning English proficiently is not an easy task. According to Hossain (2018), the initial response of students to learning a new foreign language varies due to its dissimilarity to their native language in terms of structure, rules, and system. Some students adapt to the new language effortlessly, while others require time to enhance their skills, and some face challenges right from the start.

Foreign language education in public schools in Viet Nam emphasizes rote memorization of vocabulary and written grammar exercises. Classes are typically teacher-centered, with students often tasked with reading passages from textbooks, underlining new words, and looking them up in dictionaries. However, there has been a recent shift in teaching methodology from

teacher-centered to student-centered lessons to enhance effective learning. Numerous educational institutions prioritize linguistic and logical-mathematical intelligence as the primary indicators of intelligence, overlooking other types of intelligence and subjecting students to potential discrimination. These schools show little regard for alternative intelligence types and heavily emphasize repetitive and memorization-based teaching methods (Anderson, 2022).

In this regard, the Multiple Intelligence Theory (MIT) could offer a valuable framework for promoting effective teaching methods and enhancing student outcomes. Introduced by Howard Gardner in 1983, MIT holds numerous implications for foreign language instruction and learning, emphasizing a student-centered approach.

According to Moran (2006), MIT represents an approach that offers distinct advantages compared to other methods. MIT is characterized by its focus on intelligence and calls for a shift in mindset among researchers and educators. It explains well how people of different ages show various intellectual abilities, considering things like how they were raised, their culture, and what they naturally prefer. Christison (1996) suggests that using MIT in EFL/ESL allows teachers to cater to the wide range of learners, nurture their intelligences, and establish a personalized learning setting.

It's crucial to understand the significance of integrating MIT into teaching EFL and EFL textbooks. This approach recognizes that learners possess diverse cognitive strengths and preferences, which influence how they acquire and process language. Snider (2001) asserts that materials associated with MIT hold significant promise for enhancing foreign language teaching as the theory taps into learners' natural abilities. By incorporating MIT principles into EFL instruction and textbook design, educators can create more inclusive and effective learning environments that cater to individual learners' needs and maximize their language learning potential.

Therefore, this study aims to assess the correlation between students' Multiple Intelligence (MI) profiles and the integrated MI-based activities in the textbook. For that reason, the main contribution of this research is to provide an in-depth understanding of the relationship between students' intelligence profiles and MI-based activities in educational settings. This could contribute to the development of more flexible and diverse educational programs, helping students develop multifaceted skills and abilities that reflect their individual needs and potentials.

The study seeks to answer the following research questions:

RQ1. What are the MI profiles of the upper-secondary school students?

RQ2. Which MI-based activities are already designed in the English 10 - Global Success textbook?

RQ3. How do the MI-based activities designed in the textbook correspond to the MI profiles of the upper-secondary school students?

2. Literature review

2.1 Multiple intelligences

In his book "Frames of Mind" published in 1983, Gardner suggested that intelligence should not be reduced to a numerical score obtained from a brief multiple-choice test. Instead, he argued that individuals possess diverse cognitive strengths and approach problem-solving tasks in various ways depending on these strengths.

Gardner (1983) viewed multiple intelligence activities in the classroom as a tool for conveying subject matter content to students by mobilizing each student's cognitive styles and abilities. Students engage in various activities stemming from their own prominent intellectual styles. Gardner (1999) posited eight intelligences:

Verbal/Linguistic intelligence: This pertains to the capacity for reflecting on language usage in daily life.

Logical/mathematical intelligence: This involves proficiency in calculation, reasoning, quantification, complex mathematical/logical operations, inference, and hypothesis testing.

Spatial/visual intelligence: This refers to the ability to perceive the visual world accurately.

Bodily/kinesthetic intelligence: This encompasses the skillful use of one's body for expressing ideas and emotions.

Musical intelligence: This denotes expertise in comprehending sounds, rhythms, melodies, and rhymes.

Intrapersonal intelligence: This includes the knowledge and understanding that an individual possesses about themselves.

Interpersonal intelligence: This encompasses the knowledge and understanding an individual has about others.

Naturalist intelligence: This involves the recognition and categorization of individuals, species, and ecological relationships.

2.2 Multiple intelligences-based activities

As per Gardner (1983), classroom activities based on Multiple Intelligences serve as a method for delivering content across various subjects by tapping into students' diverse inner capabilities, skills, or intelligences. This instructional approach engages students' multiple intelligences through a variety of activities tailored to different types of intelligences, thereby catering to a broader range of students' abilities (Ibrahim, 2020).

Multiple Intelligences-based activities in classroom have been recognized as effective means by which to deliver content across various subjects, catering to the diverse inner capacities, abilities, or types of intelligence possessed by students. Employing a variety of suitable activities based on MIT can effectively engage all types of intelligence (Lotfi-Khajouei et al., 2022). Armstrong (2000) proposed that utilizing activities based on MI could lead to a more motivating environment where students are likely to share common interests and connect with each other.

If educators comprehend the learning styles of their students, they can effectively categorize their objectives and create beneficial student-centered activities tailored to various types of intelligence (Sener & Çokçaliskan, 2018).

Botelho (2003) categorized MI-based activities presented in textbooks in the following manner:

Verbal/linguistic: note taking, riddles, worksheets, listening to teachers, word play games, reading books, discussions, story telling, journal keeping, debates, memorizing, writing.

Logical/mathematical: science demonstrations and experiments, logic puzzles and games, story problems with numbers, logical/sequential presentation of subject matter, logical argumentation, problem solving

Spatial/visual: illustrations, graphs, tables, using charts and grids, videos, slides and movies, using art, maps, photos, using graphic organizers, imaginative story telling, painting/picture/collage, mind maps, telescopes/microscopes, visual awareness activities, student drawings

Bodily/kinesthetic: hands-on activities, field trips, role-plays, creative movement, mime, body language, classroom aerobics, cooperative group rotation, cooking and other "mess" activities

Musical: singing, songs, playing recorded music, playing live music, jazz chants, music appreciation, student made instruments, background music

Interpersonal: pair work, peer teaching, board games, group brainstorming, group problem solving, project work, work cooperatively

Intrapersonal: activities with a self-evaluation component, interest centers, options for homework, personal journal keeping, checklist, inventories, individualized projects, doing things by yourself

Naturalist: the ability to recognize and classify plants, minerals, and animals, including rocks, grass, and all variety of flora and fauna.

2.3 Textbook

2.3.1 Role of textbook

Since the introduction of the term "textbook-defined practice" by Akbari (2008), Gray (2013) has observed the prevalence of textbooks in the field of English language teaching, partly due to the dependency of language teachers on them.

Richards (2001) argues that while new technologies are influential, textbooks will remain significant in language teaching, serving as valuable resources for teachers and learners. Effective textbooks help translate official syllabus guidelines into comprehensive content, texts, and activities that would be challenging for most teachers to create independently.

2.3.2 English 10 – Global success textbook

In Vietnam, there are currently many textbooks available for teaching English. However, one of the most commonly chosen textbooks by schools is Global Success.

Global Success is an English textbook series developed based on the English language curriculum for secondary education (issued with Circular No. 32/2018/TT-BGDĐT dated December 26, 2018 by the Minister of Education and Training) and the Foreign Language Proficiency Framework for Vietnam developed by the Ministry of Education and Training.

The series is edited by Professor Dr. Hoàng Văn Vân and involves close collaboration in expertise and professional practices between the Vietnam Education Publishing House and renowned international publishers Macmillan Education (for primary education) and Pearson Education (for lower secondary and upper secondary education levels).

The English 10 Global Success textbook has received positive feedback from teachers, students, and parents alike. Hoang (2015) stated that "the best and most appropriate foreign language textbook(s) written exclusively for the general educational system of a country should be the one(s) developed crossculturally by local authors and the authors who speak the foreign language as their mother tongue".

Developed by reputable educational organizations, this textbook offers notable highlights compared to others. It provides a continuous learning pathway from grades 1 to 12, closely aligning its content with students' thinking and perceptions while harmoniously integrating Vietnamese, regional, and international cultural values. Additionally, it offers rich and diverse resources that are regularly updated, ensuring students are well-prepared for both national and international exams. Its comprehensive knowledge system ensures students can meet the demands of various examinations. Moreover, the visually appealing and high-quality illustrations enhance the learning experience (Hoang, 2015).

2.4 Multiple intelligences-based activities in English 10 – Global Success textbook

Regarding the multiple intelligences theory, nearly all activities within textbooks have incorporated this concept. Botelho (2003) found that textbook content predominantly featured four intelligences: Verbal/Linguistic, Intrapersonal, Spatial/Visual, and Interpersonal, present in over 75% of analyzed activities. Conversely, four other intelligences: Logical/Mathematical, Bodily/Kinesthetic, Musical, and Naturalistic were less prevalent, appearing in fewer than 40% of activities across the six books.

According to Hoang (2025), each unit in upper secondary textbooks consists of eight headings: **Getting Started**, **Language** (Vocabulary, Pronunciation, and Grammar), **Skills**: **Reading**, **Speaking**, **Listening**, **Writing**, **Communication & Culture**, and **Looking Back & Project.**

For activities in the English 10 - Global Success textbook, at the beginning of each unit, an easily integrable multiple intelligences activity is the "Getting started". When implementing this teaching activity, teachers can flexibly deploy activities that align with students' intelligence profiles. Teachers can organize students into groups or pairs (Interpersonal Intelligence), initiate a direct classroom game (Logical-Mathematical Intelligence), present videos showcasing landscapes of famous landmarks (Combination of Musical Intelligence and Naturalistic Environment), or display visual images and online games (Visual-Spatial Intelligence). Most importantly, to achieve effective English proficiency, the key lies in the linguistic intelligence utilized.

This is also similar to the reading skill. Typically, in reading lessons, there will be group or pair work activities (Intrapersonal). In addition, thanks to visual images printed alongside the readings, this will also stimulate the Visual-spatial. Subsequent activities such as reading to answer questions, reading to match the highlighted words with meanings are also related to intelligence types Logical/mathematical, Intrapersonal. Once again, to achieve good results for these activities, the key role remains with linguistic intelligence.

Adding an example of an activity concluding a lesson unit, for a specific activity drawn from this book in Unit 2, "*Project: Planning activities for a Go Green Weekend event*" students can apply their intelligence to complete the task. For those with Bodily intelligence, they can organize actions and role-playing. Designing a poster for advocacy is also an activity related to Visual/Spatial, or recording environmental activities, (Naturalistic, Musical). As per Hoang (2015), the unit concludes with a project that offers students a chance to apply the language and abilities they've acquired to engage in real-life communicative activities. And certainly, the most prominent types of intelligence are still Linguistic, Logical/mathematical, Interpersonal, and Intrapersonal.

2.5 Previous studies

Kırkgöz (2010) also investigated the various types of multiple intelligences covered in Turkish primary stage textbooks. The findings revealed that verbal-linguistic and visual-spatial intelligences were the most prevalent, whereas naturalistic intelligence was the least frequently represented in the textbooks. However, the other types of intelligences were distributed fairly evenly.

Additionally, Tasse (2012) conducted an analysis of three textbooks utilized for teaching English to primary stage students in Iran, employing a multiple-intelligences framework. The findings indicated that linguistic intelligence and visual intelligence were the predominant types of intelligence represented, followed by logical intelligence, interpersonal intelligence, and intrapersonal intelligence, respectively. Notably, there were no instances of bodily intelligence, musical intelligence, or naturalistic intelligence found in the examined textbooks. In his study, Al Maharma (2021) examined the exercises within the English series of Action Pack textbooks and observed a predominant focus on language and spatial intelligences. Furthermore, it was noted that the distribution of intelligences varied across the textbooks analyzed.

According to Phan (2023), the research examining the correlation between the activities in the "Life" textbook and the multiple intelligence profiles of Vietnamese university students revealed that intrapersonal intelligence was the most prominent among the participants, followed by logical-mathematical and naturalistic intelligences. However, the "Life" textbook predominantly emphasizes verbal-linguistic intelligence, with logical-mathematical and intrapersonal intelligences also being significant. To improve students' language proficiency, the study proposed enhancing their multiple intelligences and incorporating activities aligned with the theory of multiple intelligences.

Adbelkarim (2018) examined the differences in students' multiple intelligences based on specialization and gender, finding that intrapersonal intelligence consistently ranked highest. The study also revealed a significant advantage for males in Naturalist Intelligence and noted

significant differences in Logical-Mathematical and Musical Intelligence based on specialization. Similarly, Alumran (2006) found that Musical Intelligence ranked among the lowest for students in engineering, science, law, Islamic studies, and educational technology at the University of Bahrain. Saricaoglu and Arikan (2009) also reported that Musical Intelligence was among the lowest across different gender groups.

Alilateh and Widyantoro (2019) investigated the efficacy of employing multiple intelligence activities in enhancing listening comprehension and increasing student engagement. Their findings suggested that these activities were more successful compared to traditional methods. Additionally, students in the experimental group demonstrated higher levels of interest compared to those in the control group.

According to Ibragimova (2011), there were discrepancies between students' MI profiles and those emphasized in textbooks, with students showing intrapersonal intelligence and textbooks focusing on linguistic intelligence. Abbasian & Khajavi (2012) also found that ELT textbooks in Iranian universities primarily addressed verbal/linguistic intelligence and that MI principles were not well implemented in classrooms. Both studies highlight a mismatch between students' intelligences and the focus of educational materials.

Several authors, including Estaji and Nafisi (2014), Omer (2017), and Hamza (2021), have analyzed MI-based activities in textbooks. Most studies indicate that ELT textbooks predominantly focus on linguistic-verbal intelligence. These findings collectively underscore the need for aligning educational materials with the diverse intelligence profiles of students to enhance learning outcomes.

There's a growing interest in using MI Theory in English Language Teaching to tailor instruction to students' diverse intelligences. However, there's limited research in Vietnam on how multiple intelligences are distributed among tertiary students learning English. Understanding this distribution is essential for improving teaching methods and curriculum design. Therefore, there is a research gap in the need for a comprehensive study to explore EFL learners' multiple intelligence profiles and their alignment with MI-based activities in tertiary education.

3. Research methodology

3.1 Research design

This study utilized a mixed-method approach, which involves integrating both qualitative and quantitative components within a single research project or program . This approach offers the advantage of allowing researchers to gain a deeper understanding of the relationships or disparities between qualitative and quantitative data (Creswell, 2013).

3.2 Research participants

The participants in this study are 60 10th-graders from Duy Tan High School, Tuy Hoa City, Phu Yen Province. They are uniform in their English proficiency, having completed 4 years of English study at the secondary school level.

3.3 Data collection and analysis

3.3.1 Data collection

In this study, the researcher used two research tools to collect necessary data.

The initial tool was a questionnaire aimed at gathering the participants' MI profiles, adapted from Howard Gardner's Multiple Intelligences Self-Assessment. It comprised 40 items divided into 8 clusters, each cluster representing one of the eight intelligence types identified in Gardner's MIT. Participants were asked to rate the extent to which they felt each statement reflected them. Each statement was scored as follows: 5 points for 'Strongly Agree', 4 points for 'Agree', 3 points for 'Not Sure', 2 points for 'Disagree' and 1 point for 'Strongly Disagree'. The questionnaire was distributed to all 60 10th-graders at Duy Tan High School during the initial stage of the research.

The second tool involved textbook analysis guide, employed to acquire qualitative data. Its objective was to collect and categorize the types of MI presented in the English 10 textbook. The researchers concentrated on examining every activity featured in the 10 units of the English 10 - Global Success Textbook by using the list of activities outlined by Botelho (2003) as a reference.

3.3.2 Data analysis

To answer the first research question, the responses from the students' MI profiles questionnaire were sorted, assigned codes, and subsequently subjected to quantitative analysis using the software "Statistical Package for Social Sciences (SPSS) Version 25" to examine the dispersion of MIs among the students.

To analyze the MI-based activities already present in the textbook, as previously mentioned, the analysis was conducted using Botelho's (2003) list of activities. Each activity was coded according to the types of intelligence it involved, noting that some activities encompassed multiple types of intelligence. The frequency of each of the eight intelligence types in the textbook activities was then calculated to answer the second research question.

After analyzing both quantitative and qualitative data from the student questionnaire regarding their MI profiles, the researchers compared the percentage of the students' MI profiles with those represented in the textbook. This section answers the third research question by examining the level of alignment and misalignment between the students' MI profiles and the MI-based activities depicted in the currently used textbook.

4. Findings and Discussion

4.1 Students' multiple intelligences profiles

The allocation of students' Multiple Intelligences (MIs), distinctly described within Table 1

Table 1. Students' multiple intelligences profiles

N^0	MI Types	Mean	Std. Deviation
1	Verbal/Linguistic Intelligence	2.97	.164
2	Logical/Mathematical Intelligence	3.41	.448
3	Visual/Spatial Intelligence	3.91	.286
4	Bodily/Kinesthetic Intelligence	3.31	.250

5	Musical Intelligence	2.45	.368
6	Interpersonal Intelligence	3.28	.206
7	Intrapersonal Intelligence	4.14	.588
8	Naturalist Intelligence	2.71	.263

Through the mean scores of the 8 types of intelligences in Table 1, a bar chart is generated to illustrate the prominent intelligences as well as the lowest existing intelligences among 10th-graders.

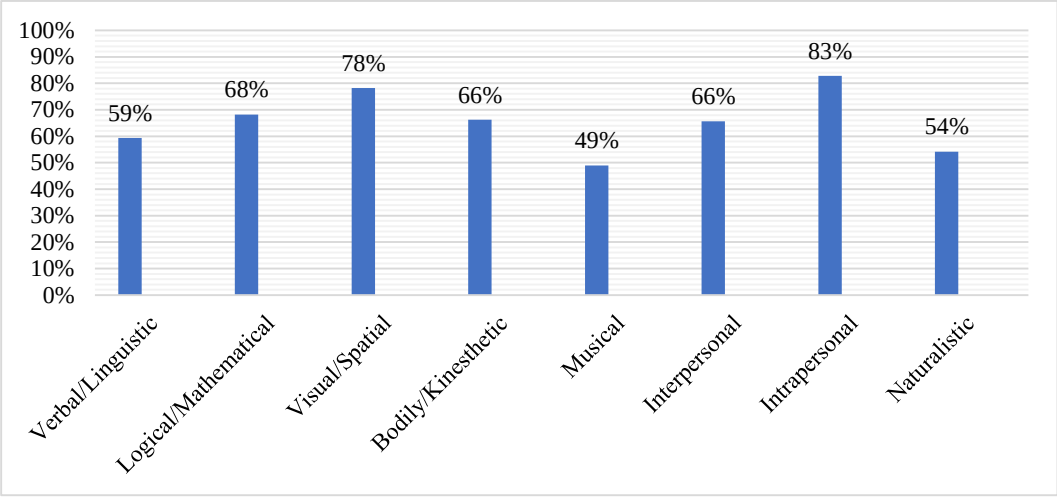

Figure 1. The students' MI Profiles

Based on the data above, it's evident that there are variations in the levels of multiple intelligences. The group of 05 types of intelligence that dominate are Intrapersonal intelligence, Visual-spatial intelligence, Logical-mathematical intelligence and jointly at the 4th position are Bodily/Kinesthetic intelligence and Interpersonal intelligence, respectively.

In particular, Intrapersonal intelligence (Mean = 4.14, SD = .588) stands out prominently indicating a high level of self-awareness, introspection, and understanding of one's emotions, goals, and motivations. This suggests an ability to effectively navigate one's inner world and make informed decisions. Following closely is Visual-spatial intelligence (Mean = 3.91, SD = .286), indicating strengths in perceiving and manipulating visual information. Logical-mathematical (Mean = 3.41, SD = .448) appears to be the third among the listed types. This suggests a proficiency in reasoning, problem-solving, and mathematical operations. Both Bodily/Kinesthetic (Mean = 3.31, SD = .250) and Interpersonal (Mean = 3.28, SD = .206) demonstrate notable strengths despite sharing the fourth position. Individuals with high bodily/kinesthetic intelligence often excel in sports, dance, or crafts that require precise motor skills and body movement awareness. On the other hand, those who possess high interpersonal intelligence tend to excel in roles that involve teamwork, leadership, teaching, or counseling, as they are adept at understanding and relating to the emotions, motivations, and behaviors of others.

Conversely, the three intelligences with the lowest mean scores are Musical Intelligence (Mean 2.45, SD = .368), Naturalist Intelligence (Mean = 2.71, SD = .263), and Verbal-Linguistic Intelligence (Mean = 2.97, SD = .164). Musical Intelligence refers to the ability to understand, create, and appreciate music. Those with lower scores in this area may find it challenging to perceive musical patterns or express themselves through music. Naturalist Intelligence involves

sensitivity to and understanding of nature, including plants, animals, and natural phenomena. Individuals scoring lower may struggle with identifying and categorizing elements of the natural world. Verbal-Linguistic Intelligence relates to language proficiency, encompassing reading, writing, speaking, and listening skills. Lower scores may indicate difficulties in communication, expression, or language comprehension.

The findings on students' MI profiles showed that the most dominant intelligence is intrapersonal, followed by visual-spatial and logical-mathematical. This findings are consistent with the studies of Ibragimova (2011), Adbelkarim (2018) and Phan (2023). By focusing on these dominant intelligences, instructors can tailor activities accordingly. For example, self-reflection and goal-setting suit intrapersonal intelligence, while visual aids and mind mapping benefit visual-spatial learners. Logic puzzles appeal to logical-mathematical learners. The results of this study also showed that musical intelligence had the lowest value among the eight types of intelligences. These findings are in accordance with the studies by Alumran (2006) and Saricaoglu and Arikan (2009). Addressing lower-scoring intelligences such as musical, naturalist, and verbal-linguistic is vital. This involves integrating music, exploring nature, and providing reading and speaking opportunities. By offering varied activities, educators can create inclusive and engaging English learning environments, promoting holistic development and catering to individual preferences.

4.2 Multiple intelligences profiles of the English 10 textbook

4.2.1 MI-based activities' distribution in English 10 textbook

As stated earlier, the research aimed to identify the relationship between the multiple intelligences (MI) profile presented in the textbook and the MI profiles of students. A total of 320 activities in 10 Units from the English 10 textbook were analyzed to determine the types of intelligences involved in each activity based on the Botelho's suggestions.

Table 2. MI-based activities' distribution

N^0	MI Types	N^0 of Activities	Percentage
1	Verbal-Linguistic Intelligence	320	100%
2	Intrapersonal Intelligence	260	81.2%
3	Logical-Mathematical Intelligence	230	71.8%
4	Visual Spatial Intelligence	180	56.2%
5	Interpersonal Intelligence	110	34.3%
6	Bodily-Kinesthetic Intelligence	30	9.3%
7	Musical Intelligence	20	6.2%
8	Naturalist Intelligence	20	6.2%

4.2.2 The prominent and the lowest intelligences

Based on the percentages from Table 2, the group of four types of intelligence with percentages higher than 50% are Verbal-Linguistic Intelligence, followed closely by Intrapersonal Intelligence, and then Logical-Mathematical Intelligence, Visual-Spatial Intelligence is less than the other three.

The Verbal-Linguistic Intelligence score of 100% implies an outstanding skill set in language-related activities, including writing, speaking, reading, and comprehending different forms of communication. This likely entails a broad vocabulary, proficient grammar skills, and

the capability to articulate thoughts coherently through language.

With Intrapersonal Intelligence including 80%, it suggests a strong grasp and comprehension of one's own thoughts, emotions, and motivations. Individuals are probably skilled in self-reflection, introspection, and establishing personal objectives. This capability aids in navigating internal dynamics and making well-informed decisions rooted in self-awareness.

With a solid proficiency in logical-mathematical intelligence at 71.8%, strong analytical and problem-solving skills are evident, along with excellence in tasks requiring logical reasoning, critical thinking, and mathematical operations. The ability to identify patterns, solve complex problems, and make reasoned decisions is likely well-developed. Conversely, visual-spatial intelligence, while not as pronounced as other types at 56.2%, demonstrates a moderate aptitude for tasks involving spatial awareness, visualization, and mental manipulation of objects. Further development of skills related to interpreting visual information, such as spatial reasoning and artistic expression, may prove beneficial.

In contrast to the prominent group of four intelligences mentioned above, the remaining group of four intelligences with percentages lower than 50% includes Interpersonal Intelligence (34.3%), Bodily-Kinesthetic Intelligence (9.3%), Musical Intelligence (6.2%), and Naturalist Intelligence (6.2%). This indicates that the contents in textbooks do not extensively cover activities related to these four types of intelligence.

Based on our research group's findings, we've observed around 11 activities dedicated to group work and pair work within a single unit. This suggests that English textbooks typically include a moderate number of activities aimed at promoting interpersonal intelligence. However, the relatively infrequent inclusion of activities like pair and group work may limit students' opportunities to develop their communication skills.

Analyzing the percentages of the remaining three intelligences uncovered a shortage of physical, musical, and nature-oriented activities within textbooks. As a result, students have minimal opportunities to engage with nature and music. Moreover, the textbook activities offer minimal encouragement for physical coordination in task completion. If teachers depend solely on textbook activities without integrating supplementary tasks involving movement, music, and nature, the classroom atmosphere may become mundane due to the absence of such activities.

The analysis of MI profiles in English 10 textbooks highlights both prominent and overlooked intelligences, providing insights to improve teaching strategies. The results revealed that all 320 activities in the textbook addressed Verbal-Linguistic intelligence. These findings are somewhat consistent with those of previous studies (Abbasian & Khajavi, 2012; Estaji & Nafisi, 2014; Omer, 2017; Hamza, 2021, Kırkgöz, 2010 and Phan, 2023).

Interpersonal intelligence ranked fifth. Activities such as pair work and group work, which foster interaction among language learners, are common and help develop this intelligence. This ranking is similar to the findings of Ibragimova (2011).

Additionally, the least common types of intelligences in the analyzed textbooks' activities were Interpersonal, Bodily-Kinesthetic, Musical, and Naturalist intelligences. Interestingly, consistent with the findings of Kırkgöz (2010) and Tasse (2012).

To address this, educators should adopt a more inclusive approach, incorporating

activities that promote collaboration, movement, music appreciation, and nature exploration. Embracing diverse intelligences fosters dynamic learning environments, enhancing language proficiency, cognitive development, and overall student success in ESL teaching.

4.3 The correlation between textbook's MI profile and students' MI profile

Looking at the percentage comparison in Figure 2 between Textbook's MI Profile and Students' MI Profile, besides the pairs of similar intelligences, there are also pairs of intelligences with significantly different percentage ratios.

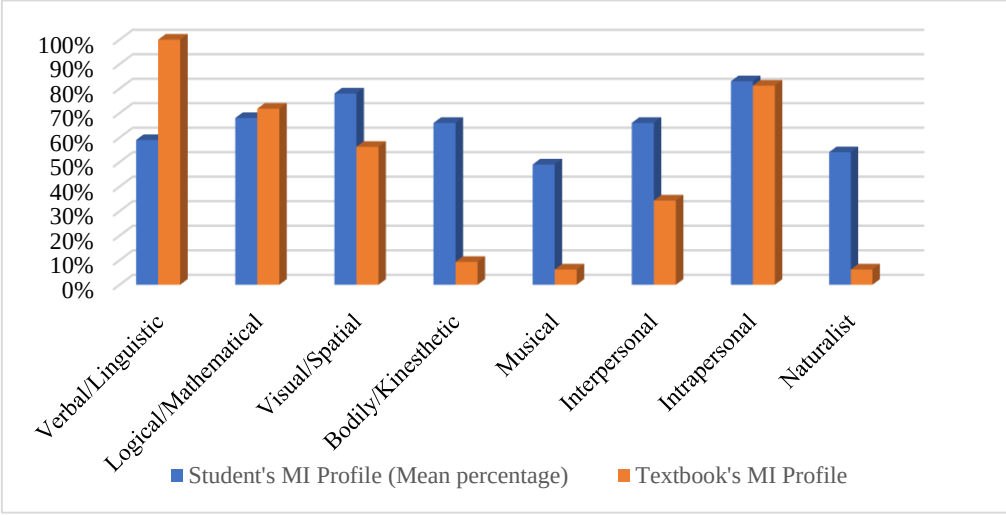

Figure 2. The correlation between textbook's MI profile and students' MI profiles

For the first pair of Verbal/Linguistic intelligence. The significant difference in percentage ratios between the student and the textbook regarding their interest in learning is quite noteworthy. In this case, the student exhibits a linguistic intelligence percentage of 59%, whereas the textbook boasts a 100% in its MI profile. This contrast raises several concerns regarding the student's English learning experience.

Firstly, the textbook's sole emphasis on linguistic intelligence may overlook the diverse learning styles and preferences of students. Secondly, the mismatch between textbook's MI profile and students' MI profile could hinder the student's engagement and comprehension. If the student's linguistic intelligence is not their predominant strength, they may struggle to connect with and internalize the material presented primarily through language-based activities.

To address these disparity, teachers should adopt a more inclusive approach to language instruction that accommodates diverse learning styles and intelligences. By recognizing and addressing the disparity between the student's MI profile and the instructional materials, educators can create a more equitable and effective learning environment for all students.

For the second pair of Logical-Mathematical (68% vs 71.8%) and Intrapersonal (83% vs 81.2%), there is similarity in the two intelligence profiles. Both the student and the textbook exhibit a relatively high degree of logical-mathematical intelligence. This indicates that they are likely adept at eliminating patterns, solving problems systematically, and analyzing information logically. In the context of learning English, this shared strength can be advantageous for

understanding grammatical rules, deciphering complex sentence structures, and tackling language exercises that require logical reasoning skills. Similarly, the student and the textbook demonstrate a notable level of intrapersonal intelligence. This suggests that they possess a strong sense of self-awareness, introspection, and ability to understand their own emotions, motivations, and goals. In the context of English language learning, individuals with high intrapersonal intelligence may excel in self-directed learning, setting personal language learning objectives, and reflect on their progress effectively.

Overall, teachers can leverage this alignment by incorporating activities and materials that capitalize on logical-mathematical reasoning and promote self-directed learning strategies, thereby enhancing the effectiveness and relevance of the English language curriculum for the student.

The disparity between the Visual/Spatial (78% vs 56.2%) and Interpersonal intelligence (66% vs 34.3%) profiles of the student and the textbook suggests potential areas of divergence in English language learning.

The student demonstrates a significantly higher preference for visual/spatial intelligence compared to the textbook. In the context of learning English, individuals with strong visual/spatial intelligence may benefit from visual aids, diagrams, and multimedia resources to enhance comprehension of vocabulary, grammar, and language concepts. Similarly, the student exhibits a notably higher level of interpersonal intelligence compared to the textbook. In English language learning, individuals with strong interpersonal intelligence may thrive in activities that involve discussions, peer interaction, and cooperative learning projects, facilitating language acquisition through social engagement.

Overall, teachers can bridge this gap by incorporating a variety of teaching strategies that cater to diverse intelligences, including visual/spatial learning aids and opportunities for interpersonal interaction, to create a more inclusive and engaging learning environment for the student.

The substantial contrast in Bodily-Kinesthetic (66% vs 9.3%), Musical (49% vs 6.2%), and Naturalistic (54% vs 6.2%) intelligence profiles between the student and the textbook highlights potential areas where the student's learning preferences may diverge from the instructional approach of the textbook in the context of English language learning.

The student exhibits a significantly higher inclination towards bodily-kinesthetic intelligence compared to the textbook. This suggests that the student may excel in learning through physical movement, hands-on activities, and tactile experiences. However, the textbook's limited emphasis on bodily-kinesthetic intelligence may overlook opportunities for the student to engage in kinesthetic learning methods, which could hinder their ability to fully comprehend and retain English language concepts.

Similarly, the student demonstrates a notably higher preference for musical intelligence than the textbook. Individuals with strong musical intelligence possess a heightened sensitivity to rhythm, melody, and pitch, which can enhance language learning through music-based activities, rhymes, and songs. However, the textbook's minimal focus on musical intelligence may neglect the student's potential to leverage music as a mnemonic device or a tool for language acquisition,

limiting their exposure to diverse learning modalities.

The student also displays a considerably higher level of naturalistic intelligence compared to the textbook. This suggests that the student may have a keen interest in and aptitude for understanding the natural world, including ecosystems, flora, and fauna. Integrating elements of naturalistic intelligence into English language learning, such as exploring environmental themes, describing natural phenomena, or engaging in outdoor language activities, could enhance the student's engagement and motivation. However, the textbook's minimal incorporation of naturalistic intelligence may overlook these opportunities for the student to connect language learning with their natural surroundings.

Based on the obtained results and the comparison between the MI profiles of textbooks and students depicted in Figure 2, notable differences exist among pairs of intelligences. A notable contrast arises in the representation of Verbal/Linguistic intelligence in the textbooks, where it is portrayed as the most dominant intelligence, compared to its lower dominance in students' MI profiles. Moreover, significant disparities are evident between pairs of intelligences such as Bodily-Kinesthetic, Musical, and Naturalistic. The prevalence of these intelligences in students' profiles exceeds their representation in the textbook. This discovery aligns with the findings of Ibrgimova (2011), Abbasian & Khajavi (2012), and Phan (2023).

The notable differences observed between the MI profiles depicted in textbooks and those of students can be attributed to various factors. Firstly, textbooks often prioritize verbal and linguistic intelligence, reflecting a traditional educational emphasis (Christison, 1996). This emphasis may not fully align with the diverse strengths and interests of individual students, whose MI profiles are influenced by unique experiences, backgrounds, and learning environments. Furthermore, textbooks typically adhere to standardized curriculum requirements (Richards, 2001), which may not allow for the full expression of students' varied intelligences. Overall, these differences highlight the need for educators to recognize and accommodate the diverse intelligences of learners, fostering inclusive and effective learning environments that go beyond traditional conceptions of intelligence.

5. Conclusions, limitations and recommendations

5.1 Conclusions

The analysis of the intelligence profiles between the student and the textbook reveals both areas of alignment and disparity, highlighting potential strengths and weaknesses in the English language learning experience. While there are similarities in certain intelligence profiles such as Logical-Mathematical and Intrapersonal, significant differences exist in others, notably Verbal/Linguistic, Visual/Spatial, Interpersonal, Bodily-Kinesthetic, Musical, and Naturalistic intelligences. These differences underscore the importance of recognizing and accommodating diverse learning styles and intelligences in English language instruction to create a more equitable and effective learning environment for all students.

These findings underscore the importance of adopting a more inclusive and diversified approach to English language instruction that accommodates a wide range of learning styles and intelligences. By leveraging students' strengths and addressing areas of divergence, educators can create more engaging and effective learning environments that promote holistic language

acquisition and cater to the individual needs and preferences of all learners.

5.2 Limitations

The limitations could stem from the sample size and its representativeness. While 60 10th-graders participated in the study, they were all from a single upper-secondary school in Phu Yen province. This might limit the generalizability of the findings to a broader population of students in different geographical locations or educational settings. Additionally, another limitation of this study is the exclusive focus on activities integrated into a specific textbook, "English 10 - Global Success." While this textbook may be widely used, there could be other textbooks available for English language instruction that were not considered in the analysis. These alternative textbooks may offer different approaches to integrating multiple intelligences or catering to diverse learning styles, which could affect the alignment between students' intelligence profiles and instructional materials.

5.3 Recommendations

To enhance English language instruction, educators should adopt a more inclusive and differentiated approach. This involves incorporating various teaching strategies and learning activities that cater to diverse intelligences, such as visual aids, hands-on activities, music-based exercises, and opportunities for interpersonal interaction. Additionally, providing supplementary materials aligned with students' individual strengths and preferences, such as multimedia resources for visual/spatial learners or music-based exercises for those with strong musical intelligence, can enhance engagement and comprehension. Offering flexibility in assignments and assessments allows students to demonstrate their proficiency using preferred modes of expression, fostering a more personalized learning experience. Encouraging collaborative learning and peer interaction facilitates language acquisition through social engagement and interpersonal communication. Moreover, providing opportunities for experiential learning and real-world application, particularly for students with strong bodily-kinesthetic and naturalistic intelligences, further enriches the learning experience. By implementing these recommendations, educators can create a more inclusive, engaging, and effective English language learning environment that accommodates the diverse needs and preferences of all students.

To address the limitation of focusing solely on "English 10 - Global Success," researchers should diversify their selection of textbooks to include a broader range of instructional materials available for English language instruction. By comparing multiple textbooks from various publishers and pedagogical approaches, researchers can gain a more comprehensive understanding of how different materials align with students' intelligence profiles and accommodate diverse learning styles.

References

Abbasian, R., & Khajavi, Y. (2012). English Language Teaching Program of Universities: Does it Cater for Multiple Intelligences of Students? *PortaLinguarum, 17*, 111-131.

Abdelkarim, R. (2018). Intelligences Profiles of the Students of the College of Arts and Applied Sciences in terms of Gender and Specializations. *American International Journal of Social Science, 7*(3). https://doi.org/10.30845/aijss.v7n3p3.

Akbari, R. (2008). Postmethod discourse and practice. *TESOL Quarterly 42*, 641–652. https://doi.org/10.2307/40264492.

Al Maharma, H.M.A. (2021). Analysis of the activities used in English textbooks regarding the multiple intelligences theory in Jordan. *Educational Research and Reviews*, *16*(10), 400–406.

Alilateh, A., & Widyantoro, A. (2019). The effectiveness of using multiple intelligence activities in listening comprehensionand improving students' interest. *LingTera*, *6*(2), 111-118.

Alumran, J. (2006). Multiple Intelligences for Bahraini Students at the University Level According to Gender and Academic Specializations: Is the Right Student in the Right Specialization? *Journal of Educational and Psychological Sciences, University of Bahrain, 7*(3), 13-43.

Armstrong, T. (2000). *Multiple intelligences in the classroom*. Alexandria, VA, USA: Association for supervision & curriculum development.

Anderson, R.A. (2022). Credit Intelligence and Modelling: Many Paths Through the Forest of Credit Rating and Scoring. *Oxford University Press*. https:// doi.org/10.1093/ oso/97 80 192844194.001.0001.

Botelho, M.R. (2003). Multiple Intelligences Theory in English Teaching: An Analysis of current Textbooks, Materials and Teachers' Perceptions. Unpublished Thesis, Athens, OH: Ohio University.

Christison, M.A. (1996). Teaching and learning languages through multiple intelligences. *TESOL Journal*, *6*, 10-14.

Estaji, M., & Nafisi, M. (2014a). Multiple intelligences and their representation in the EFL young learners' textbooks. *International Journal of Research Studies in Language Learning, 1*(1). https://doi.org/10.5861/ijrsll.2014.731.

Gardner, H. (1983). *Frames of Mind: The Theory of Multiple Intelligences*. New York: Basic.

Gardner, H., & Moran, S. (2006). The science of multiple intelligences theory: A response to Lynn Waterhouse. *Educational psychologist*, *41*(4), 227-232.

Gray, J. (2013). *Critical perspectives on language teaching materials.* Springer.

Hamza, M.A. (2021). Analysis of the activities used in English textbooks regarding the multiple intelligences theory in Jordan. *Educational Research and Reviews*, *16*(10), 400-406.

Hoàng, V.V. (2015). The development of the ten-year English textbook series for Vietnamese schools under the National Foreign Language 2020 Project: A cross-cultural collaborative experience. *VNU Journal of Foreign Studies*, *31*(3), 1-17.

Hossain, M.A. (2018). Difficulties of learning English Language at the secondary level: A case study of Thakurgaon district. *Journal of Education and Training*, *5*(2), 165-181.

Ibragimova, N. (2011). Multiple intelligences theory in action in EFL classes: A case study. Unpublished Doctoral dissertation. Eastern Mediterranean University (EMU).

Ibrahim, S.E. (2020). Using multiple intelligences-based activities to develop speaking skills of prep stage students and their self-efficacy. *Journal of The Faculty of Education-Mansoura University*, *111*(5), 41-58.

Kırkgöz, Y. (2010). Catering for Multiple Intelligences in Locally Published ELT Textbooks in Turkey. *Procedia-Social and Behavioral Sciences*, *3*, 127-130.

Lotfi-Khajouei, M., Baharlooei, R., Salehi, H., & Tabatabaei, O. (2022). Impact of Multiple Intelligence-Based Activities (MIBAs) on the Improvement of Male and Female EFL Students' Aural-Oral Performance. *Argentinian Journal of Applied Linguistics*-ISSN 2314- 3576, *10*(1), 79-94.

Omer, B. (2017). The representation of Multiple Intelligences in North Star coursebook: A Content analysis. *JUHD, 3*(3), 590-584.

Phan, T.H.V. (2023). Alignment Between 'Life'textbook Activities and Multiple Intelligence Profiles of Vietnamese University Students. *Tạp Chí Khoa Học Ngôn Ngữ và Văn Hóa, 7*(1), 108-122.

Saricaoglu, A., & Arikan, A. (2009). A study of multiple intelligences, foreign language success and some selected variables. *Journal of Theory and Practice in Education, 5*(2), 110-122.

Sener, S., & Çokçaliskan, A. (2018). An investigation between multiple intelligences and learning styles. *Journal of Education and Training Studies*, *6*(2), 125-132

Snider, D.P. (2001). *Multiple intelligences theory and foreign language teaching*. Unpublished doctoral dissertation. University of Utah, U.S.A.

Richards, J.C. (2001). *The Role Of textbooks In a Language Program*. Cambridge University Press

Taase, Y. (2012). Multiple Intelligences Theory and Iranian textbooks: An analysis. *Journal of PanPacific Association of Applied Linguistics*, *16*(1), 73-82.

MỐI TƯƠNG QUAN GIỮA CÁC HOẠT ĐỘNG TRONG SÁCH GIÁO KHOA TIẾNG ANH LỚP 10 VÀ HỒ SƠ ĐA TRÍ TUỆ CỦA HỌC SINH TRUNG HỌC

Tóm tắt: Nghiên cứu này đánh giá mức độ phù hợp giữa hồ sơ trí tuệ của học sinh và các hoạt động dựa trên lý thuyết đa trí tuệ đã được tích hợp vào sách giáo khoa. Nghiên cứu này được tiến hành với sự hợp tác tích cực của 60 học sinh lớp 10 tại một trường trung học ở tỉnh Phú Yên. Dữ liệu được thu thập thông qua việc sử dụng bảng đánh giá hồ sơ trí tuệ, một công cụ đánh giá dựa trên thang đo Likert 5 điểm. Đồng thời, các hoạt động được trình bày trong sách giáo khoa hiện tại ("English 10 – Global Success") đã được phân tích một cách cẩn thận. Tất cả dữ liệu thu thập được được xử lý thông qua phương pháp định lượng và định tính, sử dụng phân tích thống kê mô tả và phần mềm SPSS. Kết quả cho thấy sự phù hợp cũng như sự không đồng nhất giữa hồ sơ trí tuệ và các hoạt động dựa trên lý thuyết đa trí tuệ. Trong số 8 trí tuệ được xem xét, một số đã cho thấy sự tương đồng như Trí tuệ logic/toán học và Trí tuệ hướng nội, trong khi những trí tuệ khác như Trí tuệ ngôn ngữ, Thị giác/Không gian, Hướng ngoại, Vận động cơ thể, Âm nhạc và Thiên nhiên đã biểu hiện sự khác biệt đáng kể. Kết quả này nhấn mạnh tầm quan trọng của việc điều chỉnh các phong cách học tập và đa dạng hóa các kiểu trí tuệ trong việc dạy tiếng Anh, nhằm tạo ra một môi trường học tập hiệu quả hơn. Nghiên cứu cũng đề xuất việc cải thiện kỹ năng ngôn ngữ của học sinh thông qua việc tích hợp nhiều loại trí tuệ và cung cấp các hoạt động được thiết kế dựa trên lý thuyết Đa trí tuệ.

Từ khóa: Hoạt động đa trí tuệ, sách giáo khoa, học sinh lớp 10, trường trung học