

Kecerdasan Majemuk dan Karakter Mahasiswa Fakultas Ilmu Pendidikan: Analisis Berdasarkan Tes Multiple Intelligences Score (MIS)

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ABSTRACT

This study aims to describe the profile of multiple intelligences and student character in the Faculty of Education at Universitas Negeri Medan based on the Multiple Intelligences Score (MIS). The research employed a descriptive quantitative approach using a survey method involving 25 female students from four study programs: Primary School Teacher Education, Early Childhood Teacher Education, Guidance and Counseling, and Community Education. Data were collected through the MIS test based on Howard Gardner's theory of multiple intelligences and a character questionnaire referring to Thomas Lickona's character education framework. The data were analyzed using descriptive statistics in the form of mean scores and percentages. The results indicate that naturalistic intelligence obtained the highest average score, while intrapersonal intelligence showed the lowest score. In terms of character, resilience emerged as the most prominent trait, whereas independence and initiative demonstrated relatively lower scores. The study concludes that students possess diverse multiple intelligences and generally positive character traits; however, balanced learning strategies integrating the development of multiple intelligences and character are still required.

ABSTRACT

Penelitian ini bertujuan untuk menggambarkan profil kecerdasan majemuk dan karakter mahasiswa Fakultas Ilmu Pendidikan Universitas Negeri Medan berdasarkan Tes Multiple Intelligences Score (MIS). Penelitian menggunakan pendekatan kuantitatif deskriptif dengan metode survei terhadap 25 mahasiswa perempuan dari empat program studi, yaitu Pendidikan Guru Sekolah Dasar, Pendidikan Guru Pendidikan Anak Usia Dini, Bimbingan Konseling, dan Pendidikan Masyarakat. Pengumpulan data dilakukan melalui tes MIS berdasarkan teori kecerdasan majemuk Howard Gardner serta angket karakter yang mengacu pada teori pendidikan karakter Thomas Lickona. Data dianalisis menggunakan statistik deskriptif berupa skor rata-rata dan persentase. Hasil penelitian menunjukkan bahwa kecerdasan naturalis memiliki skor tertinggi, sedangkan kecerdasan intrapersonal memperoleh skor terendah. Pada aspek karakter, ketangguhan menjadi karakter yang paling menonjol, sementara kemandirian dan kebersiniatifan menunjukkan skor relatif rendah. Penelitian ini menyimpulkan bahwa mahasiswa memiliki kecerdasan majemuk yang beragam dan karakter yang cukup baik, namun tetap diperlukan strategi pembelajaran yang mengintegrasikan penguatan kecerdasan majemuk dan karakter secara seimbang.

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Introduction

Learning and teaching vocabulary in the context of foreign and second language learning is considered and experienced both by teachers and students of all ages and grades as a boring and dull facet, particularly in early educational settings. Furthermore, extensive research has revealed that feelings of nervousness and anxiety, commonly experienced within English as a foreign language (EFL) and FL classroom settings, are the principal causes of lower levels of language proficiency (MacIntyre & Gardner, 1991). In the context of EFL, the difficulties in acquiring, comprehending, and using English have been identified as the main reason for the lack of vocabulary knowledge (Nation, 2013; Sambanis & Böttger, 2016).

On the other hand, music has been recognized as an effective tool for reducing anxiety

among foreign language learners (Dolean, 2016; Dolean & Dolean, 2014; Horwitz et al., 1986). Moreover, EFL learners typically exhibit high motivation to engage with authentic songs both inside and outside the classroom (Miranda, 2013; Summer, 2010).

Despite these positive aspects, pop songs are still considered as one-off treat teachers give students, rather than a regular activity, as demonstrated both by their sporadic presence in textbooks (Tegge, 2018) and by the lack of empirical research. This empirical study explores vocabulary learning through a strategy that provides deliberate pre-teaching of target multi-word units, followed by vocal training with pop songs. Drawing on Nation's (2013) multidimensional vocabulary competence model, this study evaluates EFL learners' learning of multi-word units in terms of form (spoken, written, and word parts), meaning (correspondence between form and meaning, concepts and referents, and associations), and use (grammatical functions, collocations, constraints on use, register, and frequency).

Method

Research on out-of-school exposure to EFL suggests that listening to music is the most common activities EFL learners engage in (De Wilde et al., 2020; Lindgren & Muñoz, 2013; Muñoz, 2020; Schwarz, 2013). In Germany, students report spending an average of 141 minutes daily listening to music, with a significant portion, 72% (approximately 102 minutes), dedicated to English songs (Summer, 2010).

Moreover, songs have been found to evoke emotional responses (Krueger, 2011, 2014; Sloboda, 1985), which enhance memory formation (Eschrich et al., 2008; Sprenger, 1999). Additionally, Isen (2009) illustrated how songs enhance cognitive abilities, including decision-making, problem-solving, social interaction, and thought processes in general, while Ashby et al. (1999) claimed that listening to songs is associated with increases in dopamine levels, which improves cognitive flexibility.

These findings align with more recent research demonstrating that pleasurable music engagement stimulates dopamine release in the ventral striatum- part of the brain's reward circuitry- which facilitates reinforcement learning and affective approach-related behaviour (Gold et al., 2013; Nadler et al., 2010).

Furthermore, music has been shown to increase attentional focus in young learners (Wolfe & Noguchi, 2009), modulate physiological responses such as blood pressure and pulse (Bancroft, 1985), and boost immune functioning through elevated Immunoglobulin A levels (Charnetski et al., 1998). Music also reduces anxiety and lowers affective filters (Bare & Dundes, 2004; Dolean, 2015), creating a more relaxed and engaging classroom environment where students report feeling 'relieved from the usual tedium of the classroom and resultantly more receptive' (Jolly, 1975, p. 12).

Despite the promising reasons why songs might contribute to developing L2 learners' vocabulary knowledge, only two experimental studies have investigated vocabulary learning gains with songs in classroom settings, and neither included vocal training, authentic songs, or a secondary school context. Medina (1990) tested, for the first time in a primary school, four learning conditions: listening to a song with illustrations, listening to a spoken version of the song with illustrations, listening to a song with no illustrations, and listening to a spoken version with no illustrations. The results revealed that there were no statistically significant differences between the groups that worked with songs and those that worked with the spoken version. Medina's (1990) study has several limitations: it did not report learning gains, focused solely on a children's storybook song, and involved a small sample size ($N = 48$) with only 12 participants per group.

Additionally, while the study assessed form-meaning connections of target words, it did not address other facets of vocabulary knowledge, as vocabulary is a multidimensional construct (Nation, 2013).

Thereafter, Good et al. (2015) conducted a two-week study in a primary school with 38 participants (22 in the control group, 16 in the experimental group). The experimental group used a song version of a novel passage, while the control group used a spoken version. The study assessed recall, pronunciation of vowel sounds, and translation of target terms from English to Spanish. The musical version led to better performance, with advantages lasting for six months. However, the study was limited by its small sample size and the use of non-authentic material.

Following this literature review, we delve into an examination of the efficacy of employing authentic pop songs within a pedagogical framework, evaluating their potentials from both

linguistic and musical perspectives.

From a linguistic perspective, pop songs are a representation of 'living language' rather than an artificially constructed pattern, often found in grammar textbooks (Urbancic & Vizmuller, 1981). According to Willis and Mason (1994), pop songs often reflect the real-life experiences of students more closely than most textbook material, with their 'simplified' lyrics serving as prime examples of authentic or 'targeted language'. In this regard, Iantorno and Papa (1979) claim that 'pop songs are materials that reflect young people's concerns. They represent the kind of material that pupils want to learn. Through songs it is possible to introduce into the classroom a considerable part of the youngsters' world and to establish friendly relations with pupils' (p. 179). Hence, employing pop songs in a pedagogical strategy provides several purpose: firstly, it sensitizes students to real-world English usage (Tomlinson & Masuhara, 2018, p. 32); secondly, it guides them towards more natural language production (Azaryad Shechter, 2018; Römer, 2004); and thirdly, it provides them to work with authentic materials (Nassaji & Fotos, 2011; Römer, 2004; Rühlemann, 2008). Moreover, musicians frequently structure their compositions to align meaningful multi-word units with musical segments, enhancing cognitive processing through a process known as 'chunking' (Conklin & Schmitt, 2008; Plass et al., 2012; Thaut et al., 2005; Tomczak & Lew, 2019). This integration of linguistic and musical elements parallels the organizational units found in both language, such as clauses and phrases, and in song melodies, such as sub-phrases and phrases (Arbib et al., 2013). In this regard, Tomczak and Lew (2019) argue that 'The structural alignment observed between lyrics and melody facilitates the grouping of words into coherent segments, often multi-word expressions, and streamlines their subsequent retrieval process' (pp. 22, 23). Finally, the repeated occurrence of multi-word units within pop songs makes them a relatively effective type of L2 input for vocabulary learning. Corpus-driven studies analysing pop songs suggest that these are repetitive and conversation-like, with a mean speed of speech of 75.49 words per minute which is half the speed of spoken discourse (Murphey, 1992). The element of repetition is discernible from both linguistic and musical viewpoints, as Murphey (1990) contends, Incremental repetition in pop songs rarely adds more information [. . .] but it can add more excitement and familiarity so that the audience ideally (for the record company) is often able to sing the last chorus on the first audition of a song (p. 84).

From a musical perspective, pop songs exhibit several features that make them suitable in a teaching strategy: a predictable rhythm, a stable fundamental frequency, discrete pitch movements, a metrical structure with frequent rhymes, and a fixed structure with an intro, verse 1, pre-chorus, chorus, verse 2, pre-chorus, chorus, bridge, chorus, and outro where the pre-chorus and chorus are generally the same linguistically and musically. Therefore, pop songs provide a musical framework that helps listeners neurally track information better than the rhythmically irregular rhythms of speech or of other genres e.g., rap (Vanden Bosch der Nederlanden et al., 2020). Furthermore, pop songs tend to have a slower tempo than regular speech in terms of syllables per second, allowing the brain more time to process the acoustic details of syllables: according to Kilgour et al. (2000), the rate of text presentation in singing has been found ~3-quarters of the rate found in speech. Moreover, the tempo in pop songs typically maintains a consistent regularity; rarely a 'ritardando' or 'accelerando' takes place in pop songs. Additionally, given that pop music is predominantly in English, which serves as lingua franca of pop culture, a vast array of songs by various artists and bands falls under the broad category of pop. Consequently, working with pop music offers teachers a lot of possibilities. The brief length of pop songs (2 to 3 minutes) makes them easy to integrate into a classroom vocabulary learning programme.

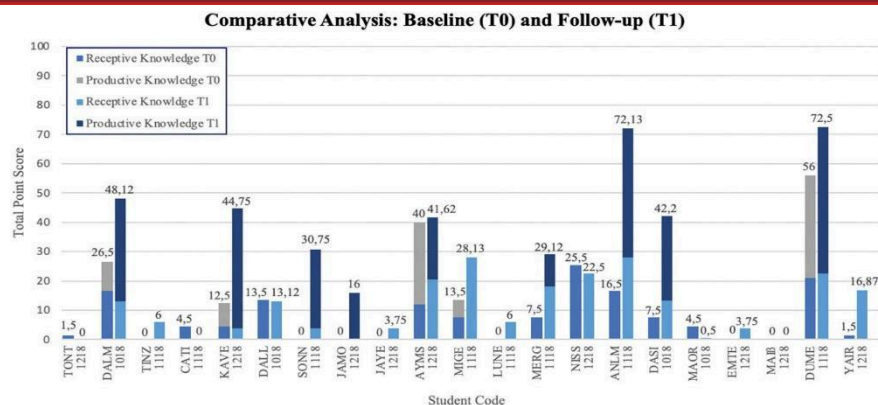


Figure 1. Productive and receptive knowledge statistics at T₀ and T₁ with student-coded scores. Excel file for the Figure 1 can be sent (for changes) on request.

On the other hand, insights from cognitive neuroscience highlighted the influential role of music in reshaping brain plasticity with studies indicating the co-storage of music and lyrics in the brain (Schön et al., 2010). Thaut et al. (2005) systematically investigated the effect of music as a mnemonic device for learning and memory and highlighted the neural dynamics underlying changes in brain plasticity of oscillatory neuronal networks during learning and recall with musical stimuli. Moreover, Patel's concept of 'Cross-Domain Plasticity' assumes that musical and linguistic syntax is processed in strongly overlapping brain regions (Patel, 2003, 2010, 2012): nowadays, it has become clear that language processing is largely distributed within the left hemisphere (Vigneau et al., 2006), involving more areas than the sole LIFG (Broca and Wernicke regions), and that the right hemisphere also plays an important role in language perception and comprehension (e.g., Federmeier et al., 2008 based on ERP data). This suggests that the brain processes musical structure in areas also responsible for language (Koelsch et al., 2000, 2002; Platel & Platel, 1997), specifically in regions associated with syntactic analysis during auditory language comprehension, and that some brain regions that had long been considered as language-specific (Broca and Wernicke's areas) are also activated by music processing (e.g., Abrams et al., 2010; Levitin & Menon, 2003; Maess et al., 2001; Vuust et al., 2006).

Result and Discussion

In light of these neuroscientific findings and recognizing the lack of studies on vocabulary competence in secondary EFL context, this study investigates whether vocal training with authentic English pop songs enhances multi-word unit learning.

Table 2. Musical analysis of the intervention's songs.

Song Title	Length of the Song (min: sec)	Tempo (BPM)	Tonality	Bar Range	Speech Rate (wps)	Mean Speed (wpm)
I want It All	4:37	143,4	B	4/4 A3- A4	2,44	121,94
If I Ain't Got You	3:44	119,5	G	3/4 E3- C#5	2,72	141,69
Baby	3:34	129,9	C#	4/4 A3- C#5	2,07	116,07
What Makes You Beautiful	3:26	125,7	E	4/4 D4- A5	2,11	119,70
Teenage Dream	3:48	120,0	B	4/4 A3- D5	1,91	104,47
Everything	3:25	123,1	E	4/4 B3- D5	1,89	79,02
What `ve Been Looking for	2:00	140,3	A	4/4 E3- G4	1,90	93,50
So Sick	3:33	94,7	C#m	4/4 B3-	1,11	63,38

Research question: To what extent does the pedagogical strategy involving vocal training with authentic pop songs enhance English L2 multi-word units learning?

Conclusion

Prior to the study, guardians provided written consent for voluntary participation and withdrawal at any time. To ensure pseudonymity, students were assigned unique codes. The intervention involved pre-tests (T_0) and post-tests (T_1), both consisting of a gap-filling exercise for receptive knowledge and a writing task for productive knowledge. Students were informed about the tests in advance, which were completed in groups within the intervention class, each taking 30 minutes.

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