BCT Journal

Journal of Business, Communication & Technology

Enhancing the Communicative Skills of Normal and Mentally-Challenged Learners through Emo-Sensory Textbooks

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Abstract Struggling with basic restrictions in mental operations, information processing, and social and communicative skills, mentally-challenged children learn with delay. Numerous methods have been proposed to enhance learning among the mentally challenged. One is emo-sensory education which highlights the interplay of senses and emotions and raises teachers' awareness of practical sense and emotion utilization in class. This study analyzed emo-sensory text on Persian literature, basic sciences, and theology books of mentally-challenged fourth-graders in terms of senses and emotions. These books were compared to those utilized for normal fourth graders. The emo-sensory text analysis revealed no significant differences between these two sets of books regarding applying emo-sensory words. Material developers merely paid attention to the visual sense, while mentally-challenged and normal children are considerably different. Various senses have to be integrated into the textbooks to enhance learning and communicative skills, which seems to have been overlooked. As a result, authors should include more emo-sensory stimuli to boost information processing and benefit the mentally challenged.

Keywords: *Communicative skills, Course book evaluation, Emo-sensory education, Mentally-challenged learners*

1. Introduction

Children with an Intelligence Quotient (IQ) below average are considered mentally challenged. This below-average IQ results from a deficiency in cognitive (e.g., intelligence, memory, and language), adaptive, and practical brain function skills since childhood (Schalock et al., 2009). Due to their cognitive constraints regarding perception, memory, and proper attention, their performance level is lower than expected for their age, resulting in learning disorders, deficiency in abstract thinking, and lack of problem-solving skills (Soenen et al., 2009). Furthermore, the mentally challenged suffer from limited working memory capacity, affecting their attention, accuracy, and concentration when asked to do several tasks simultaneously (Lifshitz et al., 2011). These children lack interaction skills

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Received: April 2022
Revised: May 2022
Accepted: June 2022
Published: June 2022

http://dx.doi.org/10.56632/bct.2022.1201

since their communicative skills, lexical resources, and body language are underdeveloped. This lack can lead to dire consequences for their mental health, low self-esteem, depression, isolation, and social anxiety (Mohammadzadeh & Ghamarani, 2016). Therefore, it seems crucial that normal and mentally challenged children be taught in separate contexts to make up for their deficiencies. They cannot benefit from environments where normal children are educated due to their need for special education, which prepares them for managing different situations.

Apart from the environment the mentally challenged receive education in, the course books utilized in their education are of utmost importance. Hence, course books developed for these children must meet their needs as course books play a crucial role in the school's syllabi. If designed carefully, they can help learners promote various skills and learn more efficiently (Chu et al., 2009). Course books written for the mentally challenged can alleviate learning problems for them. However, most teachers involved in the education of the mentally challenged believe that current course books do not satisfy these children's needs (Ghasemipoor Fakhrabad, 2008).

Teaching methods employed in teaching the mentally challenged need to consider the problems these children face while reading, writing, concentrating, recalling information, categorizing, and integrating senses (Demirel, 2010; Özgüven, 2002). So far, course book writers seem to have only simplified the data presented in the books written for normal children while teaching the mentally-challenged needs expertise and are only possible in sensory and emotionally rich contexts because these children learn and interact with the social environment through the five senses, i.e., visual, auditory, kinesthetic, olfactory, and gustatory senses which helps them concentrate better on what is being taught (Hasanpour & Ghaffarinejad, 2016).

It must be noted that humans receive environmental stimuli as input through their five senses. Sensory information is then analyzed in the brain to understand the message from the environment, and learning follows. This, nevertheless, is not the case for the mentally challenged since they get the input through their senses. Still, their brain cannot analyze it simultaneously, leading to a lack of understanding and information processing (Baines, 2008). This highlights the need for designing books and methods that satisfy mentally-challenged children's learning needs.

As senses and emotions seem to enhance learning to a great extent and the researchers' knowledge, no research has evaluated their utilization in course books employed in teaching the mentally- challenged; the current study sought to assess course books written for the mentally challenged from the emo-sensory perspective and compare them with course books written for normal children. For this purpose, fourth graders' Persian literature, science, and theology course books were analyzed and compared to normal children's course books.

2. Theoretical Framework

2.1. Course Book Evaluation

Course books, either as the main or the supplementary source in the classroom, can affect education to a great extent. They provide teachers and students with a framework based on which they can build the basis for classroom activities. However, teachers need to balance the degree they choose to follow the prescriptions of course books (Garinger, 2002). Provision of teachers and the educational system with pre-prepared materials leads to uniform education as different teachers with different preferences follow course books to a certain extent (Prabhu, 1987). Further, course books illustrate teaching progress and help teachers decide on the method for delivery of a specific lesson (McGrath, 2002; Tomlinson, 2008). They offer other advantages, including helping careful syllabus presentation (Ur, 1996), provision of support for novice teachers (Tomlinson, 2008), implementation of change in the curriculum (McGrath, 2002), and simplification of material development (McDonough & Shaw, 1993).

Learners can also benefit from course books as they can review what they have already been taught or scan the parts that will be prepared for what is coming (Ur, 1996). Likewise, it is easier for learners to

track their progress when they have a course book to refer to (O'Neil, 1982). Moreover, the course book can compensate for a teacher's lack of teaching competence and help learners stabilize the learned information through revision and practice (Cunningsworth, 1995; Litz, 2005).

Nevertheless, course books suffer certain disadvantages (Allwright, 1981; Harwood, 2005), and not knowing these disadvantages can threaten education. Therefore, evaluating their quality seems to assist in choosing the right course book or making up for the problems in a course book. As a dynamic process, evaluation helps one examine how reasonable the current practices are (Rea-Dickens & Germaine, 1992). Therefore, material developers and teachers can use this tool to evaluate the appropriateness of course books (Hutchinson & Torres, 1994) before, while, or after using them to clarify whether they will bring about satisfactory results, are working well, or have been good resources respectively (Ellis, 1997). Teaching the mentally challenged poses many challenges that teachers have to overcome; evaluating the course books used in their education can help alleviate some of these problems. If the books are prepared to satisfy the educational needs of the mentally challenged, their education will become more efficient and leads to better communication. Therefore, evaluating their course books seems of utmost importance since this evaluation can minimize their shortcomings.

2.2. Educating the Mentally Challenged

According to American Association on Intellectual and Developmental Disabilities (AAIDD) (2007), mental disabilities are those that restrict learners' cognitive functions, social skills, comprehension, and practical abilities (Seif Naraghi & Naderi, 2013). The mentally challenged face problems in movement coordination, finding it challenging to write or make tiny movements. They can see, hear, and remember information, but their attention deficiency prevents them from remembering information. Due to these challenges and poverty in their physical abilities (Burden, 1995), educating the mentally challenged needs to be done with care, and their needs have to be attended to.

Teaching different concepts via pictures and drawings can help the mentally challenged learn more effectively. As a result, course books with images play a vital role in their understanding of words and skill learning as these visual aids make concepts more concrete and enhance their enthusiasm for learning. Moreover, relating different concepts and tasks to these children's interests can capture their attention and encourage more reserved learners to participate in classroom activities (Hasanpour & Ghaffarinejad, 2016). Consequently, the course books for the mentally challenged have to be more visually appealing as these learners need more visual support to learn.

The utilization of kinesthetic games (i.e., those with movements) stimulates the discovery and brain capacities of the mentally challenged (Bruner, 1972). Different sensory and kinesthetic activities promote these learners' mental activities and enable them to employ their cognitive abilities efficiently (Jensen, 2002). Thus, such activities must be implemented in course books and classrooms for the mentally challenged and visual aids.

Overall, the significant role of emotions and senses in education is evident (Pishghadam & Shayesteh, 2017) and needs to be acknowledged in course books and classrooms for the mentally challenged as movement and sense integration can benefit them. Evaluating course books for educating the mentally challenged seems to shed light on their suitability for the purpose they need to serve (Pishghadam & Ebrahimi, 2019).

2.3. Emo-Sensory Education

Teachers' teaching outlook is reflected in how they teach. Appropriate teaching methodologies and senses and emotions in teaching are of utmost importance in classroom activities and learner-teacher interactions. What the modern era has made available to us in the form of information dissemination is not reflected in our previous experiences (Bocar & Joscon, 2022). It must be noted that presenting a single method for teaching all individuals is impossible. However, traditional methods focus on cognition, learning structures, vocabulary, and improving oral skills among individuals with different abilities. They do not take senses and emotions into account (Pishghadam & Ebrahimi, 2020). At the same time, classrooms must be affective environments (Pekrun, 2014) in which an individual's emotions can enhance motivation, learning, performance, identity development, and health (Schutz &

Pekrun, 2007). Therefore, teachers and material developers must employ sense- and emotion-based teaching methods to stabilize learning. Hence, offering an educational model that can enhance mentally-challenged learners' knowledge and help them improve their communicative skills seems vital as they have attention deficit disorders and find it difficult to concentrate. Emotions and senses may enhance their learning and their ability to concentrate.

Utilizing different senses in education increases individuals' enthusiasm for learning and helps them retain information longer (Ebrahimi & Jahani, 2021; Tabatabaee Farani & Pishghadam, 2021). Multisensory education pays attention to the utilization of different senses in education. In this educational model, the teacher is expected to use kinesthetic, visual, auditory, olfactory, and gustatory stimuli to stimulate learners' senses to achieve the desired academic goals. Multisensory education involves additional sensory information pathways and cerebral structures to increase understanding (Shayesteh et al., 2020).

Montessori (1912) stated that training senses are essential in educational methods. Multisensory stimuli can help integrate the learning process's five senses (i.e., kinesthetic, visual, auditory, olfactory, and gustatory). This can help the learner retain the information better as they involve more than one sense in education. In other words, it can be said that the more senses involved in education, the more successful learning will be as internalization of information can be achieved through presenting it via different senses. Furthermore, multisensory education can help learners with different styles benefit from how the lesson is presented (Ebrahimi & Jahani, 2021; Jajarmi et al., 2020). Bains (2008) maintained that teaching and learning become more challenging if education is deprived of senses as information will be stored in learners' short-term memory and forgotten soon.

Multisensory education has proved to enhance learning among dyslexic and agraphic learners. Multisensory education can also treat spelling disorders (Hasannia et al., 2015). This can be because when more senses are involved in learning, more brain parts will get involved, which improves understanding (Ebrahimi et al., 2018; Fernald, 1988). Therefore, multisensory education seems to lead to promising results in educating the mentally challenged. In multisensory education, a variety of senses can enhance learning. However, there is no force to use all senses in teaching a concept. Therefore, other models have been proposed to integrate emotions and senses into education.

In line with the multisensory model of education, emotioncy, which combines emotion and frequency, was introduced by Pishghadam et al. (2013). Emotioncy involves sense-induced emotions and was inspired by Developmental Individual-differences Relationship-based (DIR), which holds that emotions are essential in learning the first language (Greenspan & Weider, 1998). Based on this model, the levels and degree of the emotioncy of each word are put on a continuum, including null emotioncy, auditory emotioncy, visual emotioncy, kinesthetic emotioncy, inner emotioncy, and arch emotioncy (Pishghadam, 2015).

Null emotioncy refers to a lack of emotional experience in a particular word, meaning the learner has never heard of it. This level is called avolvement, and the learner is unaware of the word. When the learner hears the word, their emotioncy will level up and reach the auditory level. The learners will reach visual and kinesthetic emotioncies when they see or touch the term's concept. These three levels help the learner enter the exvolvement level in which they bear distal emotions towards a word, i.e., they are not involved in the issue closely and only have a general understanding of it. If the individual experiences the issue directly and does research on it, they gain higher levels of emotions towards it and experience inner and arch emotioncies, respectively. These two emotioncies are the result of proximal emotions and lead to involvement. In this stage, the individual will comprehensively understand the issue (Pishghadam, 2015).

This model is hierarchal and additive, emphasizing emotions, frequency of emotions, and senses. That is how it differs from the multisensory model of education. Therefore, an individual needs to experience these levels to improve learning. Moreover, while multisensory education does not focus on various senses and only accepts the utilization of numerous senses (Bains, 2008), this model relies on experiencing each stage of this model one after another (Ebrahimi, 2017). Figure 1 shows different stages of the emotioncy model.

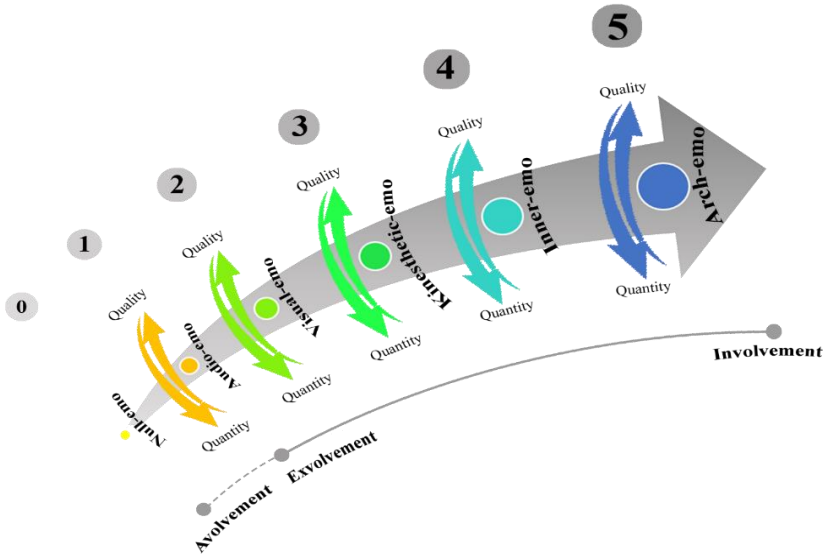

Figure 1
Emotioncy Model [Adopted from Pishghadam, 2015]

One cannot separate emotions and senses in education as they are closely related; ignoring either will distort the picture of learning and teaching. Emo-sensory education underlines the importance of senses and emotions in education and states that sensory emotions affect cognition. According to emo-sensory education, teachers must attend to emotions that arise from senses to utilize them for more effective teaching and learning (Pishghadam, 2017). Similarly, Pishghadam et al. (2016) demonstrated that sensory information affects cognition. Using different senses leads to different types of information and influences our understanding of the concepts. A complete picture of our surroundings seems to be formed when we combine senses, emotions, and cognition (Dunn, 2000). Figure 2 illustrates the three-set model of emo-sensory expression.

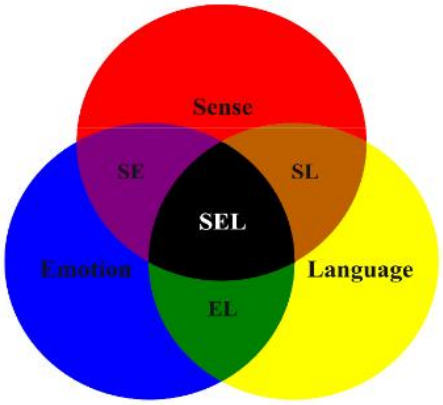

Figure 2
The Three-Set Model of Emo-Sensory Expression [Adopted from Pishghadam & Shayesteh, 2017]

The three-set diagram illustrates three circles that overlap. They represent sense, emotion, and language. The fact that they overlap shows individuals' ability to show their emotions differ; as a result, they benefit from different levels of emotion regulation (Pishghadam & Shayesteh, 2017).

Overall, Multisensory education, emotioncy, and emo-sensory education highlight the importance of senses and emotions in learning. As a result, teachers and material developers must pay attention to senses and emotions in teaching and course books. This may lead to better educational outcomes for mentally-challenged learners.

3. Methodology

3.1. Materials

For the current study, *Persian literature*, *religious studies*, and *basic science* books of the fourth grade for normal and mentally-challenged learners were chosen as samples of literary, religious, and scientific texts, respectively. The books taught to mentally-challenged learners have been designed for educable children whose IQ is between 50 and 75. On the whole, six books were analyzed. The books are prepared under the supervision of Iran's Ministry of Education. *Persian literature*, *religious studies*, and *basic science* books for normal children have been developed by Behravan et al. (2019), Amar et al. (2019), and Ansari et al. (2019), respectively. These books for the mentally challenged have been developed by Zarghampour et al. (2019), Riazi et al. (2019), and Dehghani et al. (2019), respectively.

3.2. Procedure

Fourth-grade books were analyzed for emo-sensory words so that the researchers could investigate the degree to which books consider emotions and senses. For this purpose, eight texts were chosen from each book randomly. Each text included 1000 words and was written in three pages. Then, the words, pictures, and exercises of the selected text were analyzed to see whether they included emotions and senses and whether books written for the mentally challenged differed from those for normal children. It was hypothesized that words with which learners have more familiarity or which arouse different senses and emotions are easier to learn and need to be included. For instance, the term "autumn" is a ubiquitous word familiar to learners. Moreover, it invokes the visual sense (colors, leaves falling, etc.) and the auditory sense (the sound of leaves falling). The books were prepared by preparing and analyzing course books of Iran. The texts were analyzed based on the degree to which they were related to one of the five senses (visual, auditory, olfactory, taste, and tactile) and the degree to which they were related to movement (kinesthetic).

The analysis was done at the word level. Each word was analyzed based on the sense and emotion evoked when the individuals heard it, and the dominant sense or emotion was considered for analysis. To ensure the reliability of the dominance of senses, two researchers decided on what sense or emotion the word evoked. To analyze the data gained from the two sets of books, the chi-squared test (X^2) was utilized to show if the books were significantly different in implementing senses and emotions.

4. Results

This section presents the chi-square test results and compares the books taught to mentally-challenged and normal children.

4.1. A Comparison of the Visual Sense Used in Books for the Mentally-Challenged and Normal Learners

Comparing the use of visual sense in books for normal and mentally-challenged children showed a significant difference between the employment of visual sense in the *Persian Literature* books normal and mentally-challenged children study. Therefore, books written for the mentally challenged have richer visual stimuli (X^2=5.371, $p<0.05$). However, science books and religious studies books showed no significant difference regarding the visual sense (X^2=2.139, $p<0.05$ and X^2=0.934, $p<0.05$, respectively). The results are demonstrated in Table 1.

Table 1
Chi-square Test for Independence: Visual Sense in Books

Visual Sense in the Books	Persian Literature		Science		Religious Studies		Total	
	f	%	f	%	f	%	f	%
Normal Children	174	44.2%	145	45.9%	128	53.1%	447	47.0%
Mentally-Challenged Children	220	55.8%	171	54.1%	113	46.9%	504	53.0%
X^2	5.371		2.139		0.934		3.416	

$p<0.05$

4.2. A Comparison of the Auditory Sense Used in Books for the Mentally-Challenged and Normal Learners

Comparing the use of auditory sense in books for normal and mentally-challenged children showed that there is no significant difference between the employment of auditory sense in *Persian literature*, *basic science*, and *religious studies* books normal and mentally-challenged children study (X^2=0.216, p<0.05, X^2=0.197, p<0.05, and X^2=0.070, p<0.05 respectively). The results are illustrated in Table 2.

Table 2
Chi-square Test for Independence: Auditory Sense in Books

Auditory Sense in the Books	Persian Literature		Science		Religious Studies		Total	
	f	%	F	%	f	%	f	%
Normal Children	31	58.5%	5	33.3%	16	36.4%	52	46.4%
Mentally-Challenged Children	22	41.5%	10	66.7%	28	63.6%	60	53.6%
X^2	1.528		1.667		3.273		0.571	

p<0.05

4.3. A Comparison of the Kinesthetic Sense Used in Books for the Mentally-Challenged and Normal Learners

Comparing the use of kinesthetic sense in books for normal and mentally-challenged children showed that there is no significant difference between the employment of kinesthetic sense in *Persian literature*, *basic science*, and *religious studies* books in normal and mentally-challenged children study (X^2=1.648, p<0.05, X^2=0.386, p<0.05, and X^2=0.353, p<0.05 respectively). Table 3 presents these results.

Table 3
Chi-square Test for Independence: Kinesthetic Sense in Books

Kinesthetic Sense in the Books	Persian Literature		Science		Religious Studies		Total	
	f	%	F	%	f	%	f	%
Normal Children	119	54.3%	67	52.8%	66	47.5%	252	52.0%
Mentally-Challenged Children	100	45.7%	60	47.2%	73	52.5%	233	48.0%
X^2	1.648		0.386		0.353		0.744	

p<0.05

4.4. A Comparison of the Tactile Sense Used in Books for Mentally-Challenged and Normal Learners

Comparing the use of tactile sense in books for normal and mentally-challenged children showed a significant difference between the employment of tactile sense in the *religious studies* books normal and mentally-challenged children study. Therefore, books written for the mentally challenged lack tactile stimuli (X^2=0.018, p<0.05). However, *basic science* and *Persian literature* books showed no significant difference in a visual sense (X^2=0.670, p<0.05 and X^2=0.631, p<0.05, respectively). Table 4 demonstrates these results.

Table 4
Chi-square Test for Independence: Tactile Sense in Books

Tactile Sense in the Books	Persian Literature		Science		Religious Studies		Total	
	f	%	F	%	f	%	f	%
Normal Children	21	53.8%	10	45.5%	14	77.8%	45	57.0%
Mentally-Challenged Children	18	46.2%	12	54.5%	4	22.2%	34	43.0%
X^2	0.231		0.182		5.556		1.532	

p<0.05

4.5. A Comparison of Emotions Sense Used in Books for Mentally-Challenged and Normal Learners

Comparing emotion-related words in books for normal and mentally-challenged children showed a significant difference between emotion-related words in the *Persian literature* and *religious studies* books in normal and mentally challenged children's study (X^2=0.016, p<0.05 and X^2=0.016, p<0.05 respectively). Therefore, books are written for the mentally-challenged lack emotional stimuli. However, science books showed no significant difference regarding emotional words (X^2=1.000, p<0.05). Table 5 pictures these results.

Table 5
Chi-square Test for Independence: Emotional Words in Books

Emotions in the Books	Persian Literature		Science		Religious Studies		Total	
	f	%	F	%	f	%	f	%
Normal Children	16	76.2%	2	50.0%	16	76.2%	34	73.9%
Mentally-Challenged Children	5	23.8%	2	50.0%	5	23.8%	12	26.1%
X^2	5.762		0.000		5.762		10.522	

p<0.05

4.6. A Comparison of Taste Used in Books for Mentally-Challenged and Normal Learners

As Table 6 shows, the taste was not utilized in any three books taught to normal children. Therefore, statistical analysis was impossible in this sense.

Table 6
Chi-square Test for Independence: Gustatory Sense in Books

Taste in the Books	Persian Literature		Science		Religious Studies		Total	
	f	%	F	%	f	%	f	%
Normal Children	0	0.0	0	0.0	0	0.0	0	0.0
Mentally-Challenged Children	2	100.0%	9	100.0%	0	0.0	11	100.0%
X^2	-		-		-		-	

p<0.05

4.6. A Comparison of Olfactory Sense Used in Books for Mentally-Challenged and Normal Learners

As Table 7 shows, the olfactory sense was not utilized in any of the books studied. Hence, statistical analysis was impossible in this sense.

Table 7
Chi-square Test for Independence: Olfactory Sense in Books

Olfactory Sense in the Books	Persian Literature		Science		Religious Studies		Total	
	F	%	F	%	f	%	f	%
Normal Children	0	0.0	0	0.0	0	0.0	0	0.0
Mentally-Challenged Children	0	0.0	0	0.0	0	0.0	0	0.0
X^2	-		-		-		-	

p<0.05

5. Discussion

As sensory memory is the first step in processing information (Atkinson & Shiffrin, 1968), the current study sought to investigate how many books written for the mentally challenged had paid attention to this issue and tried to compare the utilization of emo-sensory words in books written for the mentally-challenged and normal children.

The study results indicated that, in most cases, there is no significant difference between the books written for the mentally challenged and those for normal children. However, these children have different abilities, and the mentally challenged need exceptional support. Moreover, some mentally-challenged children have difficulty in kinesthetic and tactile activities. The only difference observed was the utilization of the visual sense in the Persian literature book.

Pictures and visual sense were employed more to make the concepts more concrete for the mentally challenged. The other senses and emotions have been used to similar extents in the books written for both groups of learners. This finding supports Hasanpour and Ghaffarinejad's (2016) study, which revealed that books written for the mentally challenged at elementary school are not attractive, and colors have not been chosen in a way that they can enhance learning. Unclear pictures or those the learner cannot relate to do not help the mentally challenged.

Sensory memory receives information from external stimuli and keeps the data received for milliseconds or seconds. This memory exists for each of our senses. Iconic memory deals with visual stimuli, echoic memory receives auditory stimuli, and haptic memory deals with tactile stimuli. Sensory memory helps us understand and learn, and it affects individuals' motivation, accuracy, and attention. In other words, when an individual pays attention to and focuses on a point, the received information will be sent to working memory. Repetition of knowledge and practice transfers information to long-term memory, resulting in learning. As the first channel through which we receive information is the senses, sensory input must be focused on so learning happens (Atkinson & Shiffrin, 1968). Baines (2008) believed that utilizing different senses help information be retained for longer. Montessori (2004) also maintained that the involvement of more senses leads to deeper and more durable learning. However, as the current study results indicated, the writers have neglected the senses and their role in education. As Hasanpour and Ghaffarinejad (2016) stated, although the content of the books written for the normally challenged is different from that written for normal children, the visual aids in the books written for them are not well-chosen and lack the necessary qualities. Compatible with their findings, this study demonstrated that scant attention had been devoted to this crucial issue. The use of senses can also help them gain higher levels of emotioncies which facilitates learning (Pishghadam et al., 2021). Therefore, it seems necessary to use concepts for which learners have higher degrees of emotioncy as that can affect learning.

Evans and Green (2006) emphasized the role of physical experiences and individuals' bodies. In other words, employing the kinesthetic sense can also help improve cognitive processes (Varela et al., 1993). It seems that tactile sense and its utilization can improve the psycho-physical functioning of learners and help them communicate better. As observed, this sense was ignored in all of the studied books. However, this study showed that course book writers have not paid enough attention to this sense and have ignored the needs of the mentally challenged. This is also in line with Pishghadam et al. (2019), who claimed that different sensory stimuli could improve educational results.

Further, Olfactory and gustatory senses are least attended to in course books. However, Baines (2008) has shown that employing these senses can help individuals learn and retain information as the olfactory sense is more durable than the gustatory sense. As a result, to enhance multisensory learning, kinesthetic and tactile senses have to be combined with other senses, including the visual, auditory, olfactory, and gustatory senses.

MacLean (1978) also stated that the human brain comprises three interrelated parts called the triune brain. Humans and reptiles have the oldest part of the brain in common: the reptilian brain. It is responsible for understanding senses like pain and performing unintentional reflexes. The limbic brain that humans and mammals share deals with emotions, feelings, and creativity. Finally, the neocortex is the newest part of the brain, which is unique to humans in the evolution cycle. It enables human beings to think abstractly, communicate verbally, solve problems, and learn. As concrete and visual stimuli can be processed in the reptilian brain, the fact that visual words are dominant in books for the mentally challenged is an advantage of these books. However, proximal senses (i.e., tactile and kinesthetic) that arise emotions have not been used in either set of books, which means the role of the limbic brain has not been considered. This shows the school's focus on the neocortex (Kerry, 2005) and the need to

include more senses in books for both normal and mentally-challenged children. This leads to the activation of the limbic brain and enhances learning among all children.

Overall, the books written for the mentally challenged are far from ideal and, therefore, cannot facilitate learning. The utilization of emo-sensory education can make up for many of the challenges faced in their education. This points to the need to take urgent measures so that their education prepares them to become influential members of society. These measures can include rewriting the course books based on emo-sensory education, more effective teacher training courses that prepare teachers for these shortcomings, and training teachers' manuals filled with suitable sensory material and activities that engage all senses.

It can be concluded that using emotions and senses can boost learning as the higher the emotional weight of a word, the sooner it learns (Pishghadam et al., 2013). As a result, the current study has several implications for teachers, textbook developers, and test writers. Teachers can enrich their teaching with sensory words so that concepts become more tangible for the learners. Textbook developers should also utilize more sensory words to help the mentally challenged understand concepts better. Furthermore, developing teachers' manuals with supplementary activities and material can enhance learning among the mentally challenged. Akbari and Pishghadam (2022) proposed a new kind of software for assessing texts from both emotional and sensory viewpoints. Researchers can create a similar program to evaluate the sensory load of textbooks written for mentally-challenged learners.

Finally, it is recommended that other studies pay attention to mentally-challenged learners' communicative skills and how they learn best. Hence, they get the maximum benefit out of teaching and learning contexts. Also, other studies can evaluate the books from other perspectives to identify their deficiencies. This study assessed three-course books; others can study other course books for different grades to see whether they suffer from shortcomings.

Disclosure Statement

The authors claim no conflict of interest.

Funding

The research did not receive any specific grants from funding agencies.

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