



ISSN: 1817-6798 (Print)

Journal of Tikrit University for Humanities

available online at: www.jtuh.org/
JTUH
 مجلة جامعة تكريت للعلوم الانسانية
 Journal of Tikrit University for Humanities
Noor Arkan Ghaleb (M.A.)

Tikrit University - Salaheddin, Tikrit ,Iraq

Dr.Nahida Taha Majeed (prof.)

Tikrit University - Salaheddin, Tikrit ,Iraq.

* Corresponding author: E-mail :

07723053803
noor.arkan@st.tu.edu.iq
Keywords:
 Multisensory
 Characteristics of Multisensory Approach
 Teaching technique
 Intermediate school students.
ARTICLE INFO**Article history:**
 Received 4 Jan. 2023
 Accepted 8 Jan 2023
 Available online 31 July 2023
 E-mail t-jtuh@tu.edu.iq

 ©2023 THIS IS AN OPEN ACCESS ARTICLE
 UNDER THE CC BY LICENSE

<http://creativecommons.org/licenses/by/4.0/>


The Role of Multisensory Approach in Teaching Writing to EFL Intermediate School students

A B S T R A C T

Multisensory education including the human senses as much as possible in order to improve awareness, attention and memory. It is a very popular approach for students who have difficulty in learning. The method combines several senses such as, hearing, seeing, speaking, perceiving, and involve simultaneously the teaching structure, and new information into ideas that the students already know and understand by performing different types of activities.

There are some basic techniques, instructional steps, and strategies that motivate students, hold their attention, enable them to understand new information, and remember and review it later.

© 2023 JTUH, College of Education for Human Sciences, Tikrit University

 DOI: <https://doi.org/10.25130/jtuh.30.7.2.2023.22>

دور الأسلوب المتعدد الحواس في تدريس الكتابة لطلبة المرحلة المتوسطة دارسي اللغة الإنجليزية لغة أجنبية

نور اركان غالب / جامعة تكريت/كلية التربية للعلوم الانسانية.
 أ.د. ناهدة طه مجيد / جامعة تكريت /كلية التربية للعلوم الانسانية .

الخلاصة:

التعليم المتعدد الحواس يعني استخدام الحواس البشرية قدر الإمكان من أجل تحسين الوعي والانتباه والذاكرة. تجمع الطريقة بين العديد من الحواس مثل السمع ، والرؤية ، والتحدث ، والإدراك ، واللمس ، وقد

تشمل الحواس الاخرى كل من الشم،التذوق،والتوازن في وقت واحد،كما انها طريقة رائعة لضمان أن تكون عملية التدريس شاملة،حيث توفر مجموعة متنوعة الاساليب للوصول الى التعلم الجيد ولا تعتمد فقط على القراءة،انما على المعلومات الجديدة في الأفكار التي يعرفونها ويفهمونها بالفعل من خلال أداء أنواع مختلفة من الأنشطة.

هناك بعض الأساليب الأساسية والخطوات التعليمية والاستراتيجيات التي تحفز الطلبة وتجذب انتباههم لفهم المعلومات الجديدة وتذكرها ومراجعتها لاحقاً.

الكلمات المفتاحية: تعدد الحواس في التدريس،مميزات منهج تعدد الحواس ،طلبة المرحلة المتوسطة،اسلوب التدريس.

Section one: Introduction

1.1 Statement of the Problem

Language is the foremost critical gadget which is utilized by people to communicate with each other orally or written .English language is one of the most required language within the world since it is considered the language of knowledge , innovation , science, technology, trade...etc. Learning of EFL is affected by many factors such as, learning achievement ,teacher's proficiency, teaching methods, and language learning materials(White,1988:9).

Teaching a foreign language is a huge challenge for teachers and they are always striving to find and follow the most suitable strategy for their students. Teaching English must be attended effectively to achieve the excellent outcome for students. The effective teaching can be seen from how the teacher determines the appropriate method or technique into the teaching/learning process (Brown,2000:266).

Teachers often find that their students who study English as a foreign Language (EFL ,for short) make many mistake in learning English from exercises, words and the use of English vocabulary to practise the four Language skills. Moreover those students often complain that they forget new words soon after learning them (AL-Zahrani, 2019:9).

Teaching approaches and strategies are considered one of the factors that effect students' performance since they aim to facilitate the process of learning (Herrell and Jordon,2001:108). However ,traditional teaching methodologies have ignored the role of senses in learning. All too often , traditional teaching has also ignored the different learning styles and sensory preferences through which a student maximizes learning and accelerates learning rates(Haddon and Torry ,2003:9). Thus,it becomes essential to investigate the effectiveness of Multisensory as a teaching approach that may improve students' performance through linking learning with the practice of using their senses .

1.2 Aims of the Study

- 1.the average level of students' achievement in English.
- 2.whether there is any significant difference between the achievement of the experimental group and that of the control group in the posttest.
- 3.whether there is any significant difference between the experimental group's achievement in the pretest and posttest.

1.3 Hypotheses of the study

Three hypotheses are supposed to be verified in order to achieve the aims of the study:

- 1.The average level of the students' achievement in the posttest is within the theoretical level of performance in English.
- 2.There is no significant difference between the mean scores of the experimental group's achievement and that of the control group's achievement in the posttest.
3. There is no significant difference between the mean scores of the experimental group's achievement at the recognition level and that at the production level of the posttest.

1.4 Value of the Study

The value of the current study can be summarized in the following points:

- 1.This study could be valuable for EFL teachers through explaining the steps which should be followed through teaching English to intermediate school students in terms of the MA.

2.It motivates intermediate schools students and helps them to acquire English skills through involving their senses in the process of learning.

3.It helps EFL teachers who are required to change their slack methods in teaching English language and turn to use dynamic strategies.

1.5 Limits of the Study

The present study is limited to the second year intermediate school students who are studying **English for Iraq** Student's Book 2nd at Al Marjan Intermediate School for Girls in the City of Tikrit/ Salahuddin Governorate, during the academic year 2021-2022.

1.6 Multisensory Approach Section

1.6.1 Concept of Multisensory

The term Multisensory, means more than one sensory. Multisensory is related with or involving several bodily senses .Multisensory approach (MA) towards learning combines many learning senses, i.e. hearing, speaking, seeing, perceiving, touching, etc. The term multisensory learning means any learning activity that includes the use of two or more than two sensory modalities simultaneously to take in or express information. It does not simply mean the use of multimedia as videotapes, audiotapes, or films. It rather means involving visual, auditory, tactile inaesthetic components in the teaching of language structure with or without the use of these aids .Multisensory teaching basically means including as numerous senses as possible within the learning process to improve awareness ,attention and memory (Westwood,2007:138).

Theresia and Recard (2021:1) state that the MA is a way of teaching that promotes engagement by involving the learners' senses of sight, hearing, touch, and physical movement. Multisensory approach means using the neuroscience behind how students learn to teach lessons that engage two or more senses. Most educators include audio or visual multimedia into their assignments, but multisensory learning can also include tactile and movement related materials (Basar,2006:38).Multisensory approach (henceforth :MA) known as the O&G strategy (Orton Gillingham approach). The point of this approach is to instruct understudies to perused throughs, and utilize distinctive faculties

(Davis,2011:675).Multisensory approach means the process of learning a new subject through the utilize of two or more senses.It is additionally known as VAKT (henceforth: Visual-Auditory-KinestheticTactile) (Rains, et al 2008:34).

The Division for instruction and abilities, characterizes multisensory as “using visual , sound-related and kinaesthetic modalities , in some cases at the same time".This infers that multisensory approach is the utilize of methodologies including human faculties counting visual (what we see) , sound-related(what we listen) , kinaesthetic and material (what we do or feel)to upgrade learning. All these procedures can offer assistance to hold data in learners’ brain for the long term in its genuine sense through seeing,hearing,touching and feeling .This approach energizes learners to memorize from their encounters by utilizing more than one sense (Obeid,2013:90).

The process of using these senses occurs naturally and it starts even before birth. The infants usually learn about their surrounding through observing, listening including putting everything within reach into their mouths. when they grew up as toddlers, they tend to touch or grab everything they see around them, when they reach the pre-schoolers ‘age, they will ask about their surroundings even sometimes it seems like millions of questions. Based on this, we rarely have to teach them how to do these things since they are learning in a very natural way.This will enable the teachers to use the same energy and strategy to proceed with the process in their classrooms (Maheshwari,2016:22).

when teachers use this approach to teach the learners, they will indirectly encourage the learners to gather information about a task. When they have gone through the learning experience by doing various kind of activities, this will help them to gather the information and store it in their brain better compared to using only hearing and seeing senses as it gives more ways to remember the input and more ways to recall it in their learning later. Not only that, but it also aids learners to link the information to ideas they already know and understand from conducting different types of activities. This is because the learners are taught by including all the senses into the learning process which activate different parts of the brain simultaneously and indirectly enhance the memory and the learning of written language (ibid :23).

Multisensory approach; refers to utilizes more than two senses (hearing and vision which are generally used for learning) for teaching a learner. As all sensory modes (including vision ,hearing, smell, taste and touch) receive information and have a distinct role in receiving the stimuli in the environment, it is very major that they are used effectively. After vision and hearing it is the tactile/kinaesthetic sense that is used predominantly in the learning procedure (Alexander &Slinger ,2004:77).

According to Amstrong (2008:69), people naturally learn trough multisensory. They learn best through sight and touch, and least through their sense of hearing ,alone. Based on that information, the majority of learners would learn best by seeing and doing. The teacher draws the letter “a” on the board, and the students practice duplicating it on their own papers. Multisensory teaching approach is very effective for everyone, regardless of age, but for children with learning disabilities, they are critical. Since these disorders cause varying degrees of deficits, in the way the brain processes information gathered by the senses. Furthermore, it is important to know that the students will grasp the information with their senses easily and effectively . It is their earning style whether they are seeing, hearing, and anything and moving when they are grasping that information during learning in teaching and learning process. Teachers who rely on a single or limited sensory teaching method will not reach many of these students . The MA framework can be one of these approaches, that is, by using all of their senses,students can link learning with the practice of using their senses. Drawings ,coloured pencils ,audio devices,writing on artificial clay as well as sticky letters can attract the attention and interest of learners.

When teachers utilize this approach to teach the learners, they will indirectly encourage the learners to gather data about a task. When they have gone through the learning experience by doing different kind of exercises, this will help them to gather the information and store it in their brain better compared to using only hearing and seeing senses because it gives more ways to remember the input and more ways to recall it in their learning later. Not only that, it also aids learners to interface the information to thoughts they already know and understand from conducting different types of exercises .Usually since the learners are taught by counting all the faculties into the learning handle which activate different parts of the brain simultaneously and indirectly enhance the memory and the learning of

written language .Apart from the viability of the techniques itself, utilizing the MA within the learning can give a fun learning experience to the learners. The MA teachers can make the teaching/learning process run well ,either of them can get teaching also aims to make the learning process efficient (ibid:73).

Multisensory learning is a particularly popular teaching method for students who have learning difficulties such as ,Dyslexia , or those with learning disabilities. It is also a great way to ensure that teaching process is inclusive, as it provides a variety of ways for students to access the learning, and does not rely on just reading, writing and listening alone (<https://www.perkins.org>).

Section Two: Multisensory as a Teaching and Learning Approach

2.1 Use of Multisensory in Schools Today

Teaching students requires that teachers plan and implement guidelines strategies that support their goals of assembly students ‘uncommon needs. Hence the reason of this consider is to investigate by perception and meet a multisensory intervention planning to get it how teachers educate students with disabilities by utilizing numerous senses whereas learning (Tomlinson, 2001:11).

According to AL-waqassi (2017:1) learning styles can be essentially sound-related, visual, or material. Understudies regularly depend on their preferred styles or ways of preparing and holding data. To supply all students, rise to opportunity to memorize through their most grounded modalities, instructors ought to join all styles into their instructing. Since educating understudies by means of this strategy requires that instructors make utilize of a variety of hardware, they can make utilize of materials such as, sandboxes; three dimensional numbers, letters, and images; sound and visual representations, and or any other kind of fabric that underpins the subject is learning.

2.2 Characteristics of Multisensory Approach to Teaching and Learning

The identifying characteristics of multisensory preaching are the use of props, object lessons, interactive tools, video clips, drama, art, music, thematic backdrops, food, water, smells, and other creative elements that stimulate sensory perception. A growing number of pastor-teachers are making use of multisensory communication to elevate the impact of their teaching, and they are doing so without compromising the integrity of biblical teaching(Mangal and Mangal, 2014: 605).

The MA has the taking after components: the multisensory process calls for the utilize of some media, devices and strategies for teaching and learning. Multisensory approach is a commitment and net result of the researchers and experiments going on in the subject of educational technology for improving the method and products of the act of teaching-learning (ibid:605)

Most teaching techniques are done utilizing either sight or hearing (visual or sound related). The learner's sight is utilized in reading data, looking at text, pictures or reading information based from the board. The hearing sense is utilized to listen to what the says. Multisensory approach including multiple senses are carefully selected which are useful in giving alluring learning encounters to the learner for performing the foreordained teaching-learning goals. Multisensory approach is not used anyhow fair to increase the measure and number of media. Instead, teachers are selected and arranged to surrender the most excellent result .In the MA to teaching- learning, several media and techniques can be usefully used as an appropriate vehicle for needed communication of ideas in the process of teaching, learning for the most part to their sense organs. One's senses contribute much to what he/she learns and holds .A few learn much through the ear, a few through the eyes, whereas combined reasons have proved to be more efficient in teaching learning circumstance .Naturally, one has an inclination for one tactile learning method over the other(Mangal and Mangal, ibid: 606).

2.3 Multisensory Instruction Techniques :

A few analysts theorize that numerous understudies have area of tactile learning quality, in some cases called a learning fashion. These analysts recommend that when understudies are instructed utilizing strategies steady with

their learning styles, they learn more effectively, speedier and can hold and apply concepts more promptly to future learning. Most understudies, with a trouble or not appreciate the assortment that multisensory procedures can offer. There are some of the multisensory techniques which could be used to assist a student in his / her learning, as shown in figure (1),(Krashen ,1982: 1) .

2.3.1 To stimulate visual reasoning and learning as:

- Text and/or images on papers, posters or displays.
- Use colours to highlight and organize information or photos
- The student has created images, texts and images (ibid:4).

2.3.2 Auditory techniques as:

- Peer-assisted reading
- Video or movie along with the sound.
- Music, songs (Baines, 2008: 25).

2.3.3. Tactile techniques: as

- Sand painting
- decorative objects
- finger painting and puzzles to improve fine motor skills (Baines ,ibid:26)

2.3.4. Kinaesthetic techniques: as

- fine and gross motor movements.
- Clap on other developments that match the exercises (ibid).



Figure 1: Learning Styles (Baines, 2008: 27)

2.4 Multisensory Integration Model

An amazing case for tactile integration demonstrate of learning disarranges: the brain's administration of neural action that produces the higher-order cognition that recognize as 'learning'. Without a doubt , it shows up likely that created tangible integration abilities are what empower the students' capacities that are basic for learning (Flanders,1970:33).

Visual, Auditory and kinaesthetic models are valuable in case utilized with full understanding of all modalities and the advancement of all the learning styles, where intelligent learning as the most noteworthy expertise in Bloom's scientific classification plays a big part. Multisensory learning, as the title suggests, is the method of learning modern subject matter through the utilize of two or more faculties (Liste, 2006:99).

This may incorporate combining visual, sound-related, tactile-kinaesthetic, and/or indeed olfactory and taste (Scott,1993:789). Tactile integration is the subliminal prepare by which we combine and organize the data gotten from each sense into one cohesive mental picture of the characteristic environment. The field

is built up by Ayres (1979:66) ponder on tangible integration and the child. Ayres (ibid: 67) have attempted in these lines to design a synthesized sensory integration Model. The processing of sensory information occurs in four levels, as follows:

-The primary level is combined into:

- Sensory sensitivity

- The primary level is combined into:

- binary coordination
- attention period
- activity level

-The third level is combined into:

- eye-hand coordination
- visual perception

-The fourth level (the highest level) produces the following end products

- the ability to focus
- the ability to organize
- self-esteem (Ayres ,1979:67)

Sensory integration takes put within the central anxious Framework, where complex intelligent such as, coordination, consideration ,autonomic work ,feelings memory and tall level cognitive capacities are carried out.Sensory integration takes data through the faculties,puts it in conjunction,with information earlier data and recollections put away within the brain to from important reactions.Any data that is got from the environment through the sense organs experiences handling and pass through tactile memory,brief-term memory and at long last in the event that essential is put away within the memory (Prasannakumar and Saminathan,2016:629).

Section Three : Multisensory Learning

3.1 Concept of Multisensory Learning

To understand why multisensory learning is one of the most effective engagement strategies, it is important to get how our minds work. The human brain has evolved to memorize and grow in a multisensory environment. According to the entire brain learning theory, all brain capacities are interconnected for this reason. We keep in mind how to do things best when the directions we are given lock in multiple senses. Multisensory learning is utilizing the neuroscience behind how we learn the lessons that lock in two or more senses. Most teachers include sounds or visual multimedia into their assignments, but multisensory learning can too incorporate tactile, smell, and taste-related materials (Blomert and Froyen, 2010:195).

Multisensory structured language programmes utilize systematic phonics and are popularly utilized as reading interventions for individuals within schools. In multisensory programmes, as one sort of a structured language programe, direct and explicit instruction based on the structures of English is utilized to teach reading and writing. In addition to structured language principles, these programmes utilize multisensory techniques and are therefore called multisensory structured language programmes. Multisensory programmes present direct and explicit instruction while simultaneously engaging at least two sensory modalities: visual, auditory, or kinaesthetic (tactile) (McIntyre & Pickering, 2001:110).

The simultaneous engagement of sensory modalities during lesson exercises is believed to enhance learning. In exercises ,a wide extend of manipulatives are utilized to facilitate tactile and kinaesthetic engagement. For example ,students might trace letters on textured surfaces with their fingers whereas naming the letter or select a three-dimensional letter from a pack is based on a target phoneme. In addition, students are not required to read a word using letters not introduced, or to spell a word they have not done first .Developmental assessments are included in lessons for guidance paractitioners in preparing diagnostic and expressive lessons (ibid: 244).

There are numerous sorts and exercises of learning in the MA . Activities can be isolated into: visual learning, auditory learning, tactile learning, and kinesthetic

learning .These discover sorts of activities and give solutions to meet the needs of students with different learning qualities and preferences. The primary sort of learning is visual that students in general have trouble utilizing words to think ,rather than using words, it will be easier for them to think in pictures or scenarios. Visuals will help students to form concepts and download them into their memory. The second learning sort is auditory learning. Learners who learn best through their auditory will learn best through what they listen and conversation. The third learning type is tactile learning ,this learning type will fulfill the needs of the students who learn best through their touch. The fourth learning sort is kinesthetic learning. This learning sort meets the requirements of learners who learn best through their development or net motor muscles (Moustafa, 1999:36).

Wersich(2016:36) states that Multisensory structured language is a method that incorporates systematic phonics and is popularly used in remediation for individuals in schools. Multisensory programmes have become known as Orton Gillingham programmes .

Orton concluded that students might be able to overcome their reading difficulties (Henry, 1998:29-30) described the two principles which guide the Orton-Gillingham approach:

1. Teachers need to assist students in association of visual, auditory, and kinaesthetic language simultaneously. When reading letters, children should trace the letter as they see it and pronounce the name of the letter and sound. Children blend letters and read words, sentences, and controlled vocabulary stories. Spelling is included and students learn letter-sound mastery by repetition and practice.
2. Teachers should focus instruction on a student's specific weaknesses. Instruction should be targeted to create the process of connecting smaller parts of the words into larger and more complex wholes.

Lyon and Liuzzo (2003:31) has developed an Orton-Gillingham based reading programme founded on the fundamental principles of Orton-Gillingham's combination of visual, auditory, and kinaesthetic multisensory instructional techniques. They incorporated Orton-Gillingham's original methods teaching dyslexic students how to read into a comprehensive reading programme for all

students. Hoisington(2015:15) adds that multisensory learning provides more ways for understanding new information , more ways to remember it and more ways to review it later, as shown in figure (2).

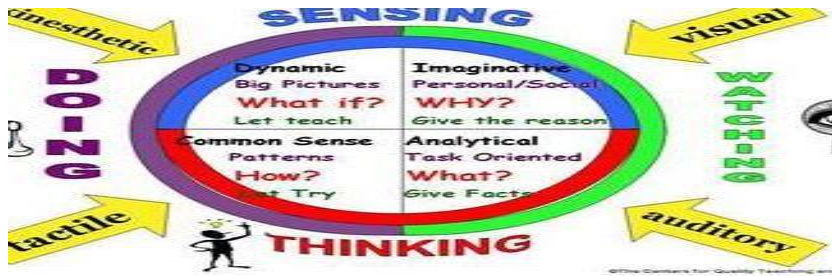


Figure (2): Multisensory Learning (ibid:16)

3.2 Benefits from Multisensory learning

Multisensory instruction is useful for everyone since everyone has a multisensory brain and has different learning style. It is useful for students who have problem with language skills involving speech sounds (phonological) and print(orthographic) processing and in building pathways that connect speech with print. MI helps children with sensory integration challenges sense information normally but have difficulty perceiving and processing that information because it is analysed in their brains in a different way <https://www.orton-gillingham.com>.

It is important to understand how student minds work. The student brain has evolved to memorize and develop in a multisensory environment. The students remember how to do things best when the directions they are given engage multiple senses. The activity engages multiple areas of the brain, it can help student develop more grounded memories around how to do it. Multisensory can help teachers to connect print letters with the oral alphabet. Educational researchers have found that multisensory exercise can teach students to associate letters or words with sounds faster. Multisensory learning can help students learn to utilize all of their senses while reading a book and rely on their strengths (Shams and Seitz,2008:17).

Multisensory instruction has the taking after objectives to achieve: helping teachers plan and organise their teaching exercises as efficiently as possible. organizing learning exercises in such a way that students learn mostly through self-effort and active participation and involvement in the learning exercises . organizing teaching-learning exercises in such a way that helps the teacher in making the total unit of learning quite clear to his students.It must also help students in acquiring all the learning experiences in general through independent efforts and cooperative planning. Selecting media for teaching exercises about a particular teaching-learning situation resulting in the practical realisation of the set goals (Mangal and Mangal, 2014: 604).

People are living in a multisensory environment. As a result, our experiences in life includes consistent multisensory stimulation as audio-visual data in one way or the other are most of the time integrated into carrying out numerous tasks in our nearby environment. Whereas for a few people who are not audio-visual learners benefits from an instructional approach that suitably incorporated multisensory(Gardner and Hatch,1989:4).

The benefits of the MA to enhance and improve teaching and learning can be seen in countless areas such as: (ibid :5).

-Multisensory instruction increases students' active participation as the lesson is going on. It increases students' understanding of necessary skills, a variety of media and strategies are joined whereas presenting the lesson.

Multisensory instruction promotes both gather and individualized learning .It includes the utilize of different instructional content. To this effect, students learn from any of the media or methods that suit them most such as, demonstration, narrating ,discourse, tv, pictures, and writings computer-assisted instruction, modified bundles, taped instruction ,educational movies as a gather or individual etc.

It appeals to most faculties: Application of MI to directions exercises creates room for the understudies to memorize through some senses such as, hearing, sight, taste, touch, scent as most media incorporated in showing the question appeal to most of the faculty's truth that variety of media and strategies are included. It makes the process of learning lively and exciting: the MA to teaching-learning makes the instructional exercise energetic and exciting based on

what will arouse his/her interest and makes learning following lively principles of learning.

-Multisensory instruction meets learning ability of the learners. It is a solution to individual learner's need intellectually, emotionally and psychologically, as diversified media and methods in use in delivering the lesson to take care of their needs in one way or the other. That everybody will gain the benefits of learning through a multisensory approach.

3.3 Multisensory Instructional Strategies

Language includes intercessory functioning (i.e. neurological organization for the automatic linkage of sound – related , visual , and kinaesthetic – motor impressions). The goal of simultaneous multisensory instruction (MI, for short) is to foster automatic integration of sound-related, visual, and kinaesthetic – motor modalities, regardless of which methodology carries the introductory stimulus (e.g. perusing starts from the visual boost of seeing words; spelling starts from the auditory jolt of internally hearing words). The term MI pertains to guidelines strategies utilized to guide students in simultaneously connecting input from eye, ear, voice, and hand to support learning during the carefully sequenced instructing of all systems of language. For example, in learning grapheme–phoneme affiliations, the student gets visual support by looking at the grapheme; sound-related fortification from tuning into and hearing the phoneme identified with the grapheme; and kinaesthetic reinforcement both from feeling the articulatory muscle movement (i.e. the position of the mouth, lips, and tongue) during pronunciation of the phoneme associated with the grapheme and from the unique sequence of muscle movements required for formation of each letter during handwriting. Tactile reinforcement occurs while tracing and/or writing the letter on a surface, sometimes roughened (Wersich, 2016:390).

During MI, children learn language concepts by simultaneously using all learning pathways to the brain used in performing language tasks (ibid):

1. In the example given to illustrate explicit instruction, for introduction of the new vowel grapheme for example (ea) that spells the phoneme /ē/, instruction included the use of visual (V) feedback (from seeing the grapheme that represents

the phoneme), auditory (A) feedback (from hearing the phoneme as it is pronounced), kinaesthetic (K) feedback (from feeling the movements in the mouth as the phoneme is pronounced) and kinaesthetic–tactile (Kt) feedback (from the movements of muscles as the letters are formed, i.e., written and/or traced).

2. In the example given to illustrate explicit instruction, for introduction of the suffix for example (-ly) instruction includes the use of the following:

a. Auditory (A) input when developing the concept (meaning) of the suffix by connecting it to prior knowledge of spoken language.

b. Integration of auditory and kinaesthetic–motor (A-Km [for speech]) input when the student listens for and pronounces the /lē/ heard at the end of the word with the suffix -ly added.

c. Integration of visual and auditory (V-A) input when the teacher shows the –ly card and gives the spelling, pronunciation and meaning of the suffix. Integration of auditory, visual, and kinaesthetic–motor (A-V-Km [for speech])when the student looks at the suffix, named each letter as it is written, pronounces the phonemes represented by the suffix, and gives the meaning of the suffix(Wersich,ibid:391).

In addition, when writing the word on paper, the integration of auditory, visual, and kinaesthetic– motor (both speech and writing) modalities are used simultaneously. Additional multisensory strategies frequently used in Structured Literacy lessons include fingerspilling(segmenting a word into phonemes for spelling by tapping one phoneme per finger),tracing letters to facilitate retrieval of a phoneme from memory,tracing and/or writing letters while simultaneously pronouncing associated phonemes(or naming letters) to reinforce learning grapheme–phoneme and phoneme–grapheme associations, and using gross motor muscle movement to write with the whole arm in the air or on a desk (Sometimes called forming with arms wing [was], air writing, or writing in the air (ibid).

3.4 Classroom Activities of Multisensory Approach

Multisensory activities are based in a whole on brain learning, which is the belief that the best way to educate concepts is by including multiple ranges within the brain. By adding auditory or visual components to reading assignments, like illustrations or online activities, it help understudies create stronger proficiency skills(<https://www.waterford.org/education/why-multisensory-learning-is-ineffective-strategy-for-teaching-students-how-to-read>).

Gillingham (2019:1) mentions the following activities of the MA in classroom:

1.Sand

This activity lets students use sight, touch, and sound to connect letters and their sounds . students start with handful of sand on a cookie sheet or a dollop of shaving cream on a table. Then they spread out the sand or shaving cream and use their finger to write a letter or word in it. As they write, students say the sound each letter makes. They then blend those sounds together and read the whole word aloud.

2. Air writing

Air writing (or sky writing) reinforces the sound each letter makes through “muscle memory”. It can help reinforce commonly confounded letter shapes like b and d. Students utilize two fingers as a pointer to write letters within the air. They say the sound each letter makes as they write it, and visualize the letter in a specific colour.

3. Blending Boards

Blending boards are utilized for students to practise portioning sounds and blending the sounds into syllables. This helps get ready students for decoding multisyllabic words. Mixing boards can hold up to three expansive card stacks that include person letters, as well as mixes and digraphs. These are put in consonant vowel consonant (CVC) arrange on the board. The teacher places a hand over each card whereas students state each sound. At that point the teacher clears a hand over all of the letters whereas students state the word or syllable. If students battle with the CVC design, attempt utilizing the CVC pattern. Starting with a continuant sound versus a ceased sound will moreover help battling students.

3.5 Steps of Accommodating Multisensory Approach

Warren (2021:119) states the following six steps to accommodate the MA:

- 1- It is necessary to understand the different ways of learning or ways processing information before planning the MA.

- 2- One must consider a number of direct instruction strategies that can accommodate the many ways students learn information.
- 3- Students' skills be assessed or evaluated using a variety of task options. Allowing students to choose comfortable ways to express their knowledge can increase motivation and attention and improve long-term memory capacity.
- 4- The learner chooses a specific word that he or she needs to learn. The teacher writes the word in blackboard-size writing (cursive) on a card. The learner finger traces the word , saying each syllable as it is followed. This is repeated until the learner feels competent of composing the word from memory. As modern words are written, they are driven away in a card file for later revision. As soon as the learner knows some words these are utilized for constructing simple sentences.
- 5- It Includes elimination of coordinate finger-tracing and the learner is encouraged to memorize the words through studying their visual appearance and then writing them from memory. This organize helps to improve visual imagery and may be utilized for instruction in rectify spelling of irregular words. Words are recorded on cards and put away for afterward revision.
- 6- It proceeds to create visual acknowledgment methods and encourages faster memorization of the words, taken after by swift.

Also,the MA is mapped out in the following five steps: (Gopnick ,2009:87-88).

1. Relating unused data to earlier information:

The examiner examines with understudies some time recently beginning a lesson in arrange to guarantee that the understudies have the fundamental earlier information and to enact this information. He ought to go back to cover vital prerequisite things or inquire the understudies to do a few preliminary works on their claim. At that point the examiner inquires such questions that offer them assistance to see relationship between what they are perusing and what they have as of now known.

2. Focusing attention to the information:

The examiner introduces the concept by loud voice and tone modulation, use novel illustration and repetition of basic ideas. Students able to distinguish and discriminate information on the concept by investigator present stimulus variation like moving to the blackboard to write, moving towards students while questioning, using appropriate gestures while talking. The examiner teaches the lesson through integration of visual and auditory attention. He provides information through visual discrimination, auditory discrimination and tactile discrimination.

3. Developing sensory connection:

The examiner uses chunking strategy it leads to students able to group individual bits of information into meaningful larger units. He uses verbal and nonverbal cues. They should be sufficiently engaging and lead representing and paraphrasing on the information. The examiner correlates application of the model from the pilot try out of the model it is found to be effective for application in classroom teaching.

4. Organizing the information:

The examiner uses realistic organizers that lead to clarifying and classifying of the concepts to the understudies. He organizes the data through visual and sound related perceptual procedures. After that he coordinate sound-related and visual perceptual strategy. The examiner uses the visual-spatial relation technique to the students for structuring the concept. Then he explains concepts through speech perceptual technique which promotes better interpreting ability on information of the students.

5. Expanding sensory images:

The examiner gives re-enactment and role play method to upgrade tactile picture of the understudies. He uses representation, analogies and commentary educating to create mental picture of the understudies. They create capacity of coordinated of complex concepts through eye-hand coordination task given by the examiner. At that point he instructs through concept maps by utilizing of visual and sound related symbolism procedures to improve sketching out and developing on the complex concepts of the understudies. The examiner uses coordinated

sound related picture and material picture to foreseeing the concept of the understudies (Gopnick,2009:88).

3.6 Multisensory Stimulation and the Principles of the Multisensory Approach

Molholm et al (2004:1) mention that all human experience depends on their capacity to utilize their senses. Everything they do is informed by their senses. Each of their senses gives different types of information, which when processed, collectively gives their with a tremendously rich, multidimensional understanding of what it means to be a human being. Naturally the more multisensory the experience, the more sophisticated understanding is likely to become. Multisensory stimulation not only makes it possible for a person to survive but it also enables him to thrive within the environment in which he lives. Multisensory stimulation plays individual wellbeing. Without multisensory stimulation a person is cut off from himself and from the outside world. This is because sensory incitement is the source of all human meaning and enjoyment.

Human begins with their senses are what make life worth living. Over time the way they see sensory stimulation becomes their own recognition of themselves . In many ways their access to this stimulation are just taken for granted. These are because mostly their bodies automatically ensure they get the sensory stimulation they require for personal comfort, development, growth, happiness and ongoing maintenance. As their brain seem to effortlessly become aware of recognize and interpret these stimuli. Just being in the world is usually enough to stimulate multisensory engagement with self, objects, other people and events. Because of their innate genetic programming as babies, they simply learn to use their senses by using them and this is a lifelong process (ibid :2).

Birsh (2018:189) has stated the following principles of the MA:

-Simultaneous, multisensory (*VAKT*)—Teaching is done using all learning pathways in the brain (visual, auditory, kinesthetic, tactile) simultaneously in order to enhance memory and learning.

-Systematic and cumulative—Multisensory language instruction requires that the organization of material follow the logical order of the language. The sequence must begin with the easiest and most basic elements and progress methodically to more difficult material. Each step must also be based on those [elements] already learned.

-Concepts taught must be systematically reviewed to strengthen memory.

-Direct instruction—The inferential learning of any concept cannot be taken for granted. Multisensory language instruction requires the direct teaching of all concepts with [continual] student–teacher interaction.

-Diagnostic teaching to automaticity—The teacher must be skillful at prescriptive or individualized teaching. The teaching plan is based on careful and [continual] assessment of the individual’s needs. The content presented must be mastered to the degree of automaticity.

In terms of the reviewed literature, it is concluded that multisensory teaching includes as many human senses as possible in order to improve awareness, attention ,and memory. It combines many senses such as, hearing ,seeing ,speaking,perceiving, touching simultaneously in the teaching of language structure .Using the MA enables learners to link the new information to the ideas they already know and understand from conducting different types of activities.

References:

- Alexander, A.W.and Slinger; A. M. (2004) “Current Status of Treatments for Dyslexia:Critical Review”.**Journal of Child Neurology**,19-774 758.
- AL-waqassi,Sarah (2017) The Use of Multisensory Learning Approach in Schools Today, (unpublished M.A. study) Indiana university September 30, 2017.
- Amstrong, Thomas (2008) **Multiple Intelligence in The Classroom**. Association for Supervision abd Curriculum Development.
- Ayres ,AJ.(1979) ‘‘Improving Academic Scores Through Sensory Integration’’. **Journal of Leaming Disabilities**,5:338-343.
- Basar, E.(2006) . “The theory of the whole-brain-work”.**International Journal of Psychophysiology**, 60,March 2006, pp. 133-38.
- Baines, L. (2008) **A Teacher’s Guide to Multisensory Learning: Improving Literacy University of By Engaging the Senses**. ASCD. Publication-Ethics, Science Malaysia.
- Birsh ,R. Judith (2018) **Multisensory Teaching of Basic Language Skills**.(4th ed.),London: Paul H. Brookes Publishing Co Retrieved from [.www.brookespublishing.com](http://www.brookespublishing.com) .
- Blomert,L and Froyen, D. (2010) “MultiSensory Learning and Learning to Read”.
International Journal of Psychophysiology,77(3)September PP-195-204[3].
- Davis, J.B (2011) The Effects of an Orton Gillingham Reading Interview on Students With Emotional /Behaviour disorders. The University of Toledo.(554). www.iiste.org. University of Toledo.(554). www.iiste.org.
- Flanders NA. (1970) **Analyzing Teaching Behavior**. Massachussts: Addi Son wesley. Publishing Inc.
- Gardner, H. and Hatch, T. (1989) “ Educational Implications of the Theory of Multiple Intelligences” .**Educational Reader**, 8(8), November 1989, pp. 4-10.[14] .
- Gillingham,Oarton (2019) **Multisensory Instruction in the Classroom Activities to Use**. 25, 2019 122 38.
- Gopnick,A.(2009) “An Information Processing Model of Learning: Its Application to an Understanding Laboratory Course in Chemistry”, **Studies in Higher Education**, 2009; 19:77-87 .

- Henry, M. (1998) Structured, Sequential, Multisensory Teaching: The Orton Legacy. **Annals of Dyslexia**, 48(1), 3-26.
- Hoisington, Becca (2015) **Multisensory Activities to Teach Reading Skills**. Minnesota Literacy Council – Summer Reads.
- Krashen, Stephen (1982) **Principles and Practice in Second Language Acquisition**. Oxford: Pergamon Press. Teacher's Guide to Multisensory Learning: Improving Literacy University of By Engaging the Senses.
- Liste A. M. (2006) Maintaining Interaction in the ZPD Through Reflective Practice, and Action Research, **Journal of Teacher's Professional Development** ; 1: 117143.
- Lyon, G. R., & Liuzzo, J. (2003) "A multisensory Reading Methodology". **Teaching Training Manual**. Birmingham, MI: The Institute for Multisensory Education.
- Maheshwari, V. K. (2016) Multisensory Teaching-Meaning and Importance. <http://www.vkmaheshwari.com/WP/?p=2364> .
- Majeed ,N .T. and Jasim K. "An Evaluation of the English Teacher -Made Tests for the Fifth Preparatory Class of Iraqi Schools"**Journal of Tikrit University Vol (29) No (3) Vol (2) Mars 2022**.
- Mangal, S.K. and Mangal, U. (2014) **Essentials of Educational Technology**. Delhi: Phi learning private limited.
- McIntyre, C.&Pickering , J.(2001) "Clinical Studies of Multisensory Structured Language Education ".**International Multisensory Structured Language Education Council** , Dallas.
- Molholm; Sophie ;Walter Ritter; Daniel C. Javittand and John J. Foxe(2004) "Multisensory Visual-Auditory Object Recognition in Humans: a Highdensity Electrical Mapping Study." journal of Cerebral Cortex vo14,no.4 ,pp 452–65.
- Moustafa , B. (1999) "Multisensory Approaches and Learning Theory in the Elementary School Educational Resources Information." **Styles Center,2-10**.
- Obeid, M.A. (2013) " The Impact of Using a Multisensory Application In Teaching Students With Learning Dis- abilities" . **Journal of to International Education Research** 9.75-82. <https://doi-org/10.19030/jier.v9il.7502>.

- Prasannakumar, S. and Saminathan, b (2016) “Development of multiple senses.” Integration Policy Model". **Internal Journal of Applied Research**. ISSN Print: 2394-7500.
- Raines, J. R; Kell, C.A. and Durham, RL (2008) “ Evaluating the importance of multisensory teaching techniques in elementary mathematics: theory and practice”. **Journal of Theory and Practice in Education**, 4(2), 239-252).
- Scott K.(1993) “Multisensory Mathematics For Children with Wild Disabilities”. **Exceptionality**, 4 (2) 97 -111.
- Shams, L. and Seitz, A.R.(2008) “Benefits of multisensory learning”. **Journal Of Trends in Cognitive Sciences**, 60, November, pp. <https://www.waterford.org/education/why-multisensory-learning-is-aneffective-strategy-for-teaching-students-how-to-read>.
- Theresia ; Novia and Recard ,Michael (2021) ‘Applying Multisensory Approach to Promote Engagement in Primary English Home-Based Learning’. **ELTR Journal EISSN: 2579-8235 Vol. 6 No. 1 (2022)**.
- Tomlinson,C.A. (2001) **How To Differentiate Instruction in Mixed Ability Classrooms** (2nd ed.). Alexandria , VA: ASCB.
- Warren ,Erica (2021) ‘ Reaching All Types of Learners with Multisensory Teaching ‘. <https://good sensory learning .com> .
- Wersich ,Nora (2016) The Impact of Multisensory Instruction on Learning Letter Names and Sounds, Word Reading and Spelling , Department of Speech and Hearing Science, (Unpublished Study):USA Arizona State University.
- Westwood, P. (2007) **Common Sense Methods for Children with Special Educational Needs**. UK Routledge .
- <https://www.perkins.org>.
- <https://www.orton-gillingham.com>.
- <https://www.waterford.org/education/why-multisensory-learning-is-aneffective-strategy-for-teaching-students-how-to-read>.