The Importance and Implementation of Kinesthetic Learning in the English Classroom

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Abstract

This paper examines different educators' and researchers' activities for kinesthetic learners and discusses how they can be applied to the English classroom in literature, writing, and language. The first section delves into the difficulty associated with but ultimate importance of including kinesthetic learning activities for both kinesthetic and non-kinesthetic learners due to the benefits of active learning. Subsequently, it looks for synthesis between different types of kinesthetic activities, dividing them into the categories of manipulatives, commonly accepted classroom activities with kinesthetic add-ons, and kinesthetic-centered activities. The ways each activity can be used, including its benefits and disadvantages, are discussed, and various principles of including kinesthetic differentiation are extrapolated for future consideration.

Keywords: kinesthetic learning, differentiation activities, learning needs, English education, active learning, literature study

Relaxing with a beloved or intriguing book is a cherished refuge for most bibliophiles. However, not everyone finds sitting with a book enjoyable or even manageable. Some people circumvent this dilemma by listening to audiobooks as they exercise, drive, or otherwise go about their daily lives. For others, however, the world of books is not a world in which they feel they belong. Although studies (Alraddady et al., 2014; McGlynn & Kozlowski, 2017; Mobley & Fisher, 2014) have been conducted about the need for differentiation regarding auditory, visual, and kinesthetic learning styles in the classroom, some learning styles are given predominance. This paper will discuss the lack of kinesthetic differentiation in secondary English classes, especially in literature, writing, and language, and explore the potential consequences—namely, non-visual and non-auditory learners feeling out of place in literacy-based classrooms.

As a kinesthetic learner who loves English, I managed to rely on coping mechanisms in many of my classes, which allowed me to remain in subtle motion. In contrast, I saw fellow classmates who were unable to do so and whose difficulties were often attributed to laziness or lack of interest. However, when students are permitted to move regularly in class, their on-task behavior increases significantly (Flippin et al., 2020). Teachers can more effectively help kinesthetic learners once they have explored the different kinds of learning styles and the specific needs of kinesthetic learners. Studying these issues, while also looking at major deterrents from kinesthetic learning, can help them plan core English concepts, such as prewriting and organizing, participating in discussions about literature, and using language effectively, with kinesthetic learners in mind. Some kinesthetic methods sound engaging in theory but may not effectively reach all kinds of learners. This paper is intended to explore the effectiveness of various activities promoting learning through kinesthetic methods to determine which ones can be rapidly implemented in the classroom in order to teach English more successfully.

Learning Styles

Learning styles are frequently discussed in the context of differentiation. Learning styles can be described as the physiological and cognitive qualities that determine how a person assesses, learns from, and responds to their educational setting (Keefe, 1979). Teaching to learning styles is a common form of differentiation in the classroom (Doubet & Hockett, 2016). However, there is conflict amongst scholars regarding the legitimateness of the theory of learning styles, and thus the efficacy of teaching to learning styles. Some scientists claim learning styles are a self-fulfilling prophecy because teachers who expect students to do well or poorly, depending on the method of teaching, often cause their students to learn well or poorly, or perceive students' success incorrectly because of confirmation bias (Cuevas, 2015; Riener & Willingham, 2010). However, other teachers claim to see measurable improvement in their students' work when considering their learning needs (Alraddady et al., 2014; McGlynn & Kozlowski, 2017; Mobley & Fisher, 2014). The discussion about learning styles is still ongoing, and no real consensus has been reached, but the learning community seems to lean toward the advantage of learning styles because it takes into consideration that students learn in different manners, which is generally accepted.

The three commonly accepted and discussed learning styles are auditory, kinesthetic, and visual, though an argument can be made for the existence of many more learning styles. Although there are many ways of categorizing intelligence, such as the eight intelligences popularized by Howard Gardner (1993), a respected authority on the subject, a movement-oriented intelligence is regularly recognized within the various schools of thought regarding categorizing intelligence. This movement-oriented intelligence, known as kinesthetic learning, will be the focus of this paper. Kinesthetic learning concerns learning through movement. This

can be seen in hands-on science experiments where students are able to physically engage with the topic to learn why something results in a particular conclusion. In contrast, auditory learning refers to the tendency to learn more easily and thoroughly by intaking information through audio. Examples of this include a teacher's lecture and audiobooks. The term visual learning describes the ability to intake information through visual stimuli. A teacher's use of visual presentations and diagrams on a whiteboard can help a visually focused student with learning. Regardless of the number of intelligences, or methods of learning, that exist, each person seems to possess a combination of learning styles, although some are more predominate than others.

Kinesthetic learners thrive in a kinesthetic-oriented environment but only make up a minority of the classroom population (Gage, 1995). While it is unclear what percentage of students in the classroom have a predominantly kinesthetic learning style, studies estimate between 15% and 30% of students, though most likely on the lower end of that range, are either primarily kinesthetic or strongly kinesthetic in their learning styles (Gage, 1995; Gilakjani & Adhmadi, 2011; Malacapay, 2019). Many researchers agree that students thrive when taught actively, allowing them to be more engaged and to understand information more fully, which will be discussed further in the next section (Culp et al., 2020; Singh et al., 2015; Walling, 2006; Zadina, 2014). However, the way kinesthetic learners adapt to the classroom depends on their ability to learn through visual and auditory input. Students who learn mostly through manipulation of their surroundings often struggle in a traditional classroom (Gage, 1995). This struggle is often noticed by teachers but attributed to other factors, leading to confusion and inefficient steps taken to help kinesthetic learners thrive.

Need for Movement and Kinesthetic-learning Inclusion

When the needs of kinesthetic learners are unmet, they are often exhibited through

difficulty absorbing and relating information and through behavioral issues. Students whose teachers tend to lecture and fail to adapt to their learning styles, including kinesthetic learning, were “1.5 times more likely to fail than students in courses that incorporated active learning” (Culp et al., 2020). A teacher’s preferred style of learning is not every student’s preferred style of learning, leading to disconnects between different styles of learners. When this happens, many students struggle to pay attention and to absorb information (Walling, 2006). When such instances occur, students may cease caring about the subject, do poorly on assessments, and even occasionally attempt to drop out of school (Singh et al., 2015). When kinesthetic students are taught in a manner largely unrelated to their primary learning style, they are inadvertently told that they must learn to process information in this manner. The students could misconstrue the exclusion as discrimination against those who learn in a way that is different from their peers. Ultimately, there are enormous consequences when students’ learning needs are not met.

However, even if kinesthetic learners need kinesthetic inclusion, why subject the entire class to kinesthetic activities when only a minority of students have kinesthetic learning as their primary learning style? Besides the point that other students may have kinesthetic learning as their secondary learning style, all students can benefit from motion. The simple motion of gesturing is instrumental in developing thought and communicating linguistically (Zadina, 2014), which is evidently useful in an English classroom. According to Knaepen et al. (2012), the human brain needs plasticity in order to learn and to adapt to changes, both essential parts of learning. To create such plasticity, brain-derived neurotrophic factor (BDNF), which is created through movement, encourages the growth of new cells while also helping maintain older cells (Haugland & Derby, 2021). The increased oxygen flow from the movement, which can be considered the fuel of the brain (Zadina, 2014) can also lead to an increased ability to process

and store information (Haugland & Derby, 2021). Since students recall information better when they use multiple modalities to learn, it follows that kinesthetic learning is an effective tool to add as a modality in learning (Zadina, 2014). In other words, movement helps the brain learn and retain knowledge.

The results of this improved brain function include greater engagement in the classroom. Other students may learn well when employing kinesthetic tactics, even if they are not kinesthetic learners (Gage, 1995). When completing kinesthetic-based activities, students must be actively involved in their own learning. This prevents them from passively listening to a teacher, leading to distraction and disengagement. It may also lead to students simply attempting to regurgitate information on a test rather than understanding its effects, preventing them from exercising critical thinking skills and understanding their need for learning outside of a grade. Having the differentiation students need even takes away possible excuses for the students' inability to complete their work, making the class more demanding in a manner that will help encourage students to learn (Wormeli, 2018). Additionally, allowing students to move and accomplish various activities breaks the class time into manageable portions of focus, rather than attempting to stay focused on the entirety of the class period. Moreover, the obvious effects of a lack of kinesthetic learning can be seen by studying the effects of online teaching during the Coronavirus pandemic. While there were many other contributing factors, such as the vast increase in the amount of screen time, the phenomenon of Zoom fatigue can also be attributed to a lack of learning by doing as kinesthetic learning was further eliminated from the classroom due to the difficulties in conducting it when students were at home (Serembus & Kemery, 2020). When students are able to physically involve themselves in the lesson, they are less likely to be fatigued and to fail to process information.

Another often overlooked benefit of kinesthetic involvement in the classroom is its ability to increase the emotional stability of the students. Anxiety can negatively influence how students learn and relate their learning to others (Zadina, 2014). In contrast, kinesthetic learning has been positively linked with high emotional intelligence, with up to an 8.35% difference in emotional intelligence between kinesthetic and auditory learners (Leasa et al., 2017). Perhaps the healthy, active movement leads to a greater ability to disregard stress (Culp, 2020). Additionally, kinesthetic learning often involves projects, leading researchers to notice that kinesthetic activities led to greater social interaction and feedback between their student participants (Culp, 2020; Haugland & Derby, 2021). Students working in a kinesthetic lab stated they felt more appreciated, relaxed, and attached to their classmates, leading them to experience a better classroom environment and increased motivation (Culp, 2020). Since learning is stressful to students because it requires them to vulnerably open themselves to correction and to constantly change their views about the world surrounding them, improved student mood and interaction is yet another reason that implementing kinesthetic activities in classes is essential.

Students must have their educational needs met. In Maslow's Hierarchy of Needs, his third and fourth tiers are centered around belongingness and esteem needs, respectively (Mathes, 1981). After sampling 123 countries, Tay and Diener (2011) found that humans universally derive happiness from meeting these social needs. There is a gap in the literature regarding how specifically using kinesthetic learning meets students' needs, but Tomlinson (2005) points out that differentiation responds to students' needs to learn and not be seen as stupid in front of their peers, which is essential to their participation. The esteem-needs tier is unmet when students notice they are not learning or retaining knowledge at the same rate as their peers. These students may recognize this issue is not the result of laziness, or even necessarily of disabilities, but they

still feel stupid and upset because they cannot learn. This feeds from tier three of Maslow's Hierarchy, which requires people to feel they belong to and are loved by a community, even a small one. If students feel they do not belong among their classmates because they are not learning at the same pace, their need to feel they belong to their community is not being met.

Disadvantages of Kinesthetic Activities

With all the advantages of kinesthetic learning, what prevents teachers from implementing it? The key reasons teachers seem to bring up include the possibility for distraction in students, which leads to a lack of time, as well as a lack of support and a lack of knowledge or confidence in knowing the ways to implement kinesthetic learning in an effective way for all students.

Primarily, kinesthetic activities can lead to distraction in its students without proper classroom management and student self-regulation. According to Chisholm and Spencer (2017), it is easy for kinesthetic activities to diverge from their goal. Whenever students leave one task and begin another, there is a dangerous slot of time when students can go off-task (Flippin et al., 2020; Lemov et al., 2015). If students are switching locations or activities for kinesthetic activities, there are opportunities for students to be distracted by their surroundings. This can be very draining for teachers when they must use all their energy to corral their students while also trying to help students understand and retain the information they are being taught. It can also be very time-consuming when students go off-task because they become unfocused. This lack of focus can make kinesthetic activities difficult.

Many teachers have also not received the necessary information to implement kinesthetic differentiation. According to Beard (2018), experienced teachers do not feel as confident, positive, or knowledgeable about adding movement into the classroom than newer teachers.

However, the 17 teachers that Beard (2018) studied all desired more education on ways they can implement active learning in their classrooms, no matter their level of experience. Teachers may not know how to organize their classroom at the beginning of the school year to allow students to move for activities, such as an activity where students move to different stations throughout the classroom (Haugland & Derby, 2021). If teachers must rearrange desks or other parts of the classroom by themselves to allow for motion, it will add another layer of difficulty to implementing kinesthetic activities (Haugland & Derby, 2021). Another difficulty occurs because many teachers tend to teach using their predominant learning style. This style is natural to them because it is the way in which they constantly overcome problems and learn information, so they teach others using this style (Oxford et al., 1992). Furthermore, some teachers do not realize the ramifications of failing to include differentiation or have not been given enough guidance in planning differentiation. For example, there seems to be some gaps in the literature regarding difficulties such as planning kinesthetic differentiation for students with disabilities, particularly physical disabilities, which may deter teachers from planning kinesthetic activities. Because many teachers have not been given enough guidance in differentiation, they often do not have the time and energy to plan it on top of their normal workload. When more teachers have knowledge of the need for kinesthetic learning and the ways to plan it, differentiation may be more attainable to them.

Examples from Other Subject-specific Classes

Some subjects lend themselves more easily to different learning styles, while others do not, making kinesthetic learning sometimes difficult to include in daily classroom activities. Subjects often associated with hands-on learning involve more movement, while subjects associated with reading are more likely to be visual. Music classes involve all three modalities

because students must visually read the music, kinesthetically play the instruments, and auditorily hear the music, though the class may be more auditorily slanted due to the emphasis on hearing the correct notes (Beheshti, 2009; Garcia, 2002). The English classroom tends to have less emphasis on kinesthetic learning than does the science classroom, for example (McGlynn & Kozlowski, 2017). Focused on written and spoken language, the subject naturally inclines itself to visual readings and auditory discussions of literature's content (Begoray, 2001; Hilliard, 2014). Language is often learned verbally and literature visually, rather than kinesthetically. The nature of the study of English lends itself to visual and auditory modalities.

Considering that many teachers do not know how to frequently carry out kinesthetic learning, we can examine commonly accepted kinesthetic techniques from other classes and translate them into workable techniques for the English classroom to add to the English teacher's kinesthetic repertoire. For example, the use of teams or the staggering of students' turns in activities helps science classes to be more efficient because not every student has to be actively completing the activity at the same time (McGlynn & Kozlowski, 2017). Additionally, teachers of science classes often divide their students into groups and have them filter through stations with different tasks (Wagner, 2014). Through this method, they add to the collective knowledge of the class because not every student does the same task, but they actively move and teach each other about their outcomes (Wagner, 2014). English classrooms can learn from these methods. Once it is no longer expected that every single student must take part in every single kinesthetic activity for a prolonged period of time, it is easier to implement without becoming a time-consuming project for the teacher. For example, when performing a play in front of the class, not every student needs to perform every day. Instead, each student can have a turn on a different day. They can also teach each other, adding to the collective knowledge of the class. One way

this technique could be used is by dividing a classroom into groups of four and having each student in the group read a different poem, but every poem is written by the same author. They can then teach each other about their assigned poem and find consensus about the author. While a few enterprising English teachers undoubtedly follow the methods often used by science teachers, those who struggle to implement kinesthetic learning can focus on creating a culture where moving through stations and teaching each other are present.

Since both English and mathematics are visually focused, kinesthetic techniques from math can also be explored. Students who complete math problems often draw graphs or shapes to solve problems rather than just looking at them (Baiduri et al., 2021). They also collect data to label the sides of the shapes rather than merely rereading the information provided in the problems (Baiduri et al., 2021; Ishartono, 2021). The emphasis on recording information for themselves rather than simply reading it sets kinesthetic learners apart from visual learners. Mathematics students also eagerly use manipulatives to help them picture concepts, though they must be used appropriately to further learning (Colgan, 2021). These examples of kinesthetic learners in mathematics (Baiduri et al., 2021; Colgan, 2021; Ishartono,2021) indicates that English teachers must allow kinesthetic students to find and record information for themselves, rather than expecting them to remember what they have read. By examining the preferences of kinesthetic learners in other subjects, English teachers are better able to understand how to adapt to kinesthetic learners in their classroom by particularly focusing on times to add objects to manipulate, ways to draw and record information, and ways to move students throughout the classroom during their independent practice.

Different Methods Used

There are many ways to categorize kinesthetic movement in the classroom. In an attempt

to provide increased support for English teachers wishing to implement kinesthetic learning with a minimum of time wasted or off-task students, I have examined some commonly used techniques that add movement and hands-on learning into the English classroom. Kinesthetic-driven activities generally can take more planning time than adding simple kinesthetic differentiation to an already-established activity, but not all of them have to be complicated or time-consuming.

For the purposes of this paper, I am dividing the activities into manipulatives, which are small objects used for fidgeting or understanding the material, simple ways to add kinesthetic learning into normal activities, and activities centered around kinesthetic learning. They can be used for various purposes in the English classroom to teach literature, writing, and language skills, including direct instruction, guided practice, independent practice, and assessments. However, not all of them are as useful as others, so some of their strengths and weaknesses are mentioned.

Manipulatives

Fidget toys can increase students' focus, but they can also distract students from learning. A study concluded that students with ADHD who were allowed access to fidget toys were better able to stay focused on their task, although they did not necessarily increase the quality of their work (Aspiranti & Hulac, 2021). However, according to Soares and Storm (2019), fidget spinners can negatively influence student memory because students do not focus on the task at hand. In my personal experience, being allowed to knit in my English classes helped engage me with the material. Rather than attempting to keep myself focused and ultimately wandering off into distracting thoughts, the repetitious movement kept me engaged. This allowed me to participate in discussions more fully. However, it did require some discipline because I needed to

ensure that I laid down my knitting whenever I needed to take notes. In the same manner, fidget toys can help or hinder students. In general, the evidence about fidget toys is inconclusive, but seems to lean toward negatively impacting students' attention to their work. Therefore, it must fall to the teacher's discretion on a case-by-case basis. Students with disabilities and a few other students may need the support of a small manipulative to help them stay-on task. Still other students may find fidget toys a hinderance to their learning or can receive the required stimulation with a pencil or other school-related object that may not distract them from their studies.

Teacher-directed movement with manipulatives, on the other hand, seems to have more positive effects. Blackout poetry, one way to teach a poetry unit, is created when a student takes a newspaper or some other form of writing and crosses out words (Ladenheim, 2014). The words that are left can become the student's new poem, which allows them to actively create writing through the dismantling of another poem (Ladenheim, 2014). While I have seen this method be engaging to students, I have seen far more engagement with the cut-up method, which takes a stronger kinesthetic bent. This can be conducted by presenting students with a basket of words printed or written on individual pieces of paper (Adema, 2017). The students can rearrange the cut-out words to create their own poetry (Adema, 2017). This can bridge the gap between different types of learners in a poetry unit. Auditory and visual learners can observe or hear the way words can be arranged on a line, rather than being written as straight sentences, while kinesthetic learners can understand the relationship between words and lines by testing the effects of putting different phrases on different lines. This technique can make a visual activity approachable for a kinesthetic learner. Another example of a useful manipulative is giving students printed-out words to categorize as different parts of speech. By allowing students to

physically organize the words to gain knowledge (Walling, 2006), they will have increased familiarity with parts of speech and may be better be able to identify parts of speech in a more visual context due to their previous practice. Activities that involve tangible objects that helps students understand a concept can direct a student's attention, rather than distract a student. Such activities can benefit the kinesthetic learner because they lend themselves well to physical categorization.

Adding Movement to Regularly Utilized Activities

It is also possible to add a tactile or kinesthetic element to predetermined activities that teachers may be more comfortable in implementing. Possible techniques to include kinesthetic learners involve the activities Take a Stand (Lemov et al., 2015), pair-and-share (Culp et al., 2020; Zadina, 2014), and Socratic seminars (Haugland & Derby, 2021).

When teachers depend on students to self-assess and report their understanding to the teacher, the small addition of kinesthetic activity to the self-assessment does not overcome its intrinsic flaws, but Take a Stand allows students to express their opinions in a physical way. One kinesthetic technique that does not benefit the students is self-report through hand signals, in which students give a thumbs-up if they understand a concept, a sideways thumb if they somewhat understand, and a downward thumb if they do not understand. This technique is ineffective because students may believe they understand while they do not or may succumb to the desire to appear knowledgeable (Lemov et al., 2015). Instead, students should express their opinions differently. A common standard for English classrooms involves students learning to choose a stance and to communicate their ideas (Virginia Department of Education, 2017). An alternative to self-report is the Take a Stand technique, which allows students to make decisions and the teacher to assess at a glance the students' viewpoints. Rather than verbally stating their

beliefs, this method requires students to show if they agree or disagree with a teacher's statement by putting their thumbs up or down (Lemov et al., 2015). There is minimal evidence to show how powerful the kinesthetic component of this technique is, but the researchers state that this technique in general produces engagement (Lemov et al., 2015). However, both methods provide students kinesthetic output and practice in stating their opinions while giving teachers the immediate results of a visual assessment of their students' decisions.

Another simple way to add motion into the classroom is by having students stand during pair-and-share. Pair-and-share involves students individually thinking about a question and then sharing their ideas with each other (Culp et al, 2020; Zadina, 2014). Not only does adding a standing component add a bit of motion for the students, it also adds only minimal extra time or preparation to the teacher's workload. Additionally, this technique can provide valuable information to the teacher to observe if students are on-task. On-task students will most likely gesture to explain their point, allowing the teacher to rapidly observe if students are trying to express their ideas to each other (Zadina, 2014). This is an easy but effective technique to wake students from the stupor of sitting.

Another simple way to add motion to the classroom, specifically in the case of a Socratic seminar, is to involve the activity of tossing a beanbag. Socratic seminars traditionally have students call on each other to contribute their thoughts to an open-ended question (Griswold et al., 2017). However, students often speak out of turn or dominate a discussion, discouraging the tentative talkers and preventing a multitude of ideas from being heard (Clarke, 1985). While there does not seem to be any research associated with adding a beanbag to a Socratic seminar, the action of tossing a beanbag can be tied back to BDNF, as discussed earlier. Students will increase their BDNF production and improve their brain plasticity through motion (Haugland &

Derby, 2021), which can not hinder and will most likely help students to learn from their peers in a Socratic seminar. In my personal experience from when I was a middle school student, I took part in a seminar in which one student was given a beanbag when they volunteered to start the discussion. After the student was finished speaking, that student tossed the beanbag to the next student with a raised hand. Whoever had the beanbag had the floor. This method helped to minimize interruptions while engaging kinesthetic students. Based on my personal experience, while this method only increases kinesthetic engagement slightly, the little motion helped students to self-regulate their discussions.

Kinesthetic-Centered Activities

The following activities are compiled from multiple books and journal articles written by educators, as well as activities I have seen teachers enact during my time in middle school, high school, and educational practicums. The activities are divided into the categories whole-class organization, literature, language, writing, and decompression.

Whole-Class Organization

Untraditional classroom styles, such as the flipped classroom, introduce more opportunities for kinesthetic learners simply by providing more time for activities in the classroom. The flipped classroom involves having students receive their direct instruction from videos and readings from the teacher, while using their time in the classroom for guided practice, homework, and other activities (Bergman, 2012). Having students learn what would normally be considered direct instruction while they are at home gives them the opportunity to mix in kinesthetic motion without disrupting other students. It also gives more time to accomplish guided practice and independent practice in class while also using kinesthetic activities (Bergman, 2012). Activities such as round-robin debates, in which students compete in debates

with each other until all teams have been eliminated except for the one with the most convincing argument, have more time to take place, and students are able to move around the classroom instead of attempting to quietly sit and listen to their teacher. According to Carbaugh et al. (2016), it is a learner-centered technique that can be focused on differentiation. However, it still requires students to learn through videos or reading at home, making it a less-effective method of differentiation for English students than largely kinesthetic-driven instruction.

The Jigsaw method provides more freedom in engaging in active and even kinesthetic learning. In Jigsaw, students are split into "home" groups of a few students, and then these groups are split again (Carbaugh et al., 2016). Students will pick different "expert" groups to join to learn about a particular subject, and then return to their home group to present their new learning (Carbaugh et al., 2016). This gives a few more opportunities for kinesthetic learning. This method tends to be successful even across multiple subjects (Bhandari et al., 2017; Karacop, 2017), with an effect size of 1.1971 as assessed in 37 studies (Batdi, 2014). As analyzed by Nalls and Wickerd (2022), such an effect size means that students' scores were raised over one standard deviation due to the Jigsaw method. Students who are naturally inclined toward kinesthetic learning can take advantage of designing their own teaching method by including kinesthetic learning. In the field of English, this could include physically manipulating the diagramming of sentences or mapping of paragraphs, acting out characters' motivations, or whatever way they most naturally present information. This method puts the students in charge of their own learning while also allowing them to teach other students in the way that feels most comfortable to them.

One style of learning that is coming into vogue in modern classrooms and can be implemented in an English classroom is project-based learning. According to Gage (1995),

kinesthetic students constantly want to be active by creating products, role-playing, and completing projects. Making products such as dioramas or presentations exhibit what students have learned with a finished product, while also allowing them to be hands-on. Gage (1995) brings up a number of techniques to reach kinesthetic students, such as his Meet the Poets symposium. Rather than lecturing on a number of poets, he assigned groups of students to research and act as different poets, who were then interviewed. Not only does this include an acting element to the day's class, but it also puts students in charge of their own learning and allow students freedom in being creative and tactile. While project-based learning can require more adaption on the part of the teacher, it can also engage students more because they are responsible for openly sharing their findings, rather than disengaging or waiting for the teacher to call on them.

Literature

Just as kinesthetic learners in mathematics class, as mentioned earlier, must physically map out information from problems before solving for the answer, kinesthetic learners can also map out pertinent information to organize their thoughts in the English classroom. While reading can be overwhelming to kinesthetic learners because it is highly visual, teachers can reframe reading as a way to untangle and explain the literature (Gage, 1995). According to Culp et al. (2020), concept mapping allows for active learning. However, according to Walling (2006), graphic organizers alone can be more helpful to the visual learner. As a variation of graphic organizers, allowing students to physically manipulate and organize the information, especially if they also given the opportunity to run through their ideas, can help the kinesthetic learner prepare to test their tentative ideas with concept mapping (Walling, 2006). It can also clarify information to the participants (Taylor, 2011). If students can break down and physically act out their concept

mapping, perhaps by walking through a flowchart, this activity can be helpful. This allows them to interpret their text and break it into understandable portions, making it easier for their brains to retain the decoded elements.

When students are studying plays, having students act in front of the class can increase engagement and understanding. Acting in front of the class helps students to engage with the material. It can help them to better understand the characters they are playing because they study them more closely and are given the opportunity to move and experiment with the material, allowing them to identify more with the characters (Fennessey, 2006). There also seems to be a positive link between reader theatre and lower-achieving students' ability to read smoothly and to understand what they read (Lo et al., 2021; Millin & Rinehart, 2010). In particular, it helps kinesthetic and auditory learners (Lo et al., 2021). Furthermore, they can associate characters with different classmates' performances, decreasing confusion when examining a list of character names. This technique can help give students more autonomy over their learning by occasionally asking them to decide which scenes they wish to perform, which can help them to reread and focus on the text to decide which they would like to see performed. The downside of performing parts of plays is that they can be time-consuming and cause students to go off-task quickly. When I had students act from *Macbeth* during my practicum, I found myself constantly bringing students back on-task because they insisted on flirting with each other in the roles of Macbeth and Lady Macbeth. However, during and after their flirting, they discussed the power dynamic between the two characters, displaying their knowledge of the text. This acting can serve either as a final, creative assessment, or as an impetus for a better discussion. Participating in theatre can help decrease confusion and increase engagement, making it often worth the time commitment required to carry out this activity.

To help with the study of literature and language, teachers can have students clap or skip meter during poetry units. According to Zimmerman (2002), her students started to fall into a stupor as the semester progressed, so when she taught meter, she asked students to pick motions to correspond to signify stressed and unstressed syllables. During her implementation, the students selected the movement of a hop to correspond to a syllable that was stressed, while a normal step corresponded to an unstressed syllable (Zimmerman, 2002). This activity engaged both kinesthetic learners and auditory learners because it engaged both of their primary learning styles. Students could actively mark meter while also hearing meter. Moreover, this technique can be adapted to allow all students to engage to their comfort level by offering the option of more subdued clapping meter or the more active skipping. It also allowed for scaffolding since students could practice clapping iambic pentameter with no accompanying words to avoid distractions. However, as students began to read poetry, they could clap or tap along to mark meter. Zimmerman (2002) later added to this activity by making it a game of tag, in which teams of students run and hop particular meters as directed by the teacher, helping students to practice using meter and the teacher to assess their mastery of the skill. This technique can be a little chaotic, but it can also be a way for students to practice and the teacher to assess how well the students know different meters.

Language

Students can also make sense of visual elements through a game of charades. Vocabulary words can be discussed auditorily or read visually, but they can also often be acted out. When given a vocabulary word from a predetermined list, students can act out the term, requiring other students to guess to which word they are referring (Goldey & Espinosa, 2020). While this act may be difficult for words with more nuance, particularly adjectives and adverbs, such difficulty

will actually aid students in remembering the word they are pantomiming because they are forced to think of multiple ways to convey the word. Researchers found that students who participated in charades before a vocabulary test found their vocabulary retention significantly improved, particularly when compared to a group of students who took the same test without participating in charades (Khayati & Hadi, 2020; Sari & Chairani, 2017). Students also seemed to be more actively engaged and passionate about learning vocabulary when they participated in a game of charades (Khayati & Hadi, 2020; Rahmah & Astutik; 2020). Rather than simply giving students a list of vocabulary words to review and perhaps discuss, adding the occasional kinesthetic review can help students enjoy learning about vocabulary while seriously considering the meaning of the words and how to best convey them in their writing.

Another activity akin to vocabulary charades involves Total Physical Response (TPR)-gestures and cross-lateral movements. TPR-gestures involve engaging the whole body for learning. To learn vocabulary, students can work together as a class to discuss and decide which gestures will represent key vocabulary words (Haugland & Derby, 2021). The class can drill these words together with the teacher's guidance, allowing them to better recall the words by completing the gesture. This technique can involve cross-lateral movements, which refer to using an arm or a leg to cross over the body's center line, which simulates both the right and left side of the brain, allowing for greater cognitive abilities (Haugland & Derby, 2021). Thus, taking the time to gesture will help the entire class better engage their brains, no matter their preferred learning styles.

Writing

To help students grasp the importance of brainstorming essays to make sure their essays fulfill what they need to convey, students can try a Play-Doh activity, which combines a

kinesthetic-centered activity and a physical manipulative (Kruse, 2020). When used in a bioscience class, a Play-Doh activity created interest, understanding, and positive emotions (Lace-Costigan, 2017). When used among students from different disciplines and ages, Play-Doh helped them to better comprehend and retain knowledge when used to teach a concept (Stead et al., 2021; Wohlwend & Peppler, 2015). While this fact should not immediately imply that all Play-Doh activities are useful in the classroom, it can potentially be used to help struggling students grasp the importance of planning or brainstorming essays. To combat this and to engage kinesthetic learners, students are given Play-Doh and instructed to craft a pencil holder. After students create the pencil holder, the teacher provides extra-large pencils and asks students if they fit the pencil holders. When students state that the pencil holders should be bigger, the teacher can respond that students did the best they could with the instructions they had. Still, sometimes additional instructions are given, and students need to consider their instructions, their purpose, and their audience. This hook can help the teacher lead a discussion on the importance of researching the parameters of an assignment and planning how to meet the criteria, taking care to adjust the writing to best communicate the writer's point. This activity, while a little messy, can help kinesthetic learners to understand the need for reading instructions when provided in order to brainstorm and craft the best assignment possible.

To take prewriting a step further, students can physically organize the information they have gathered into paragraphs, and then organize those paragraphs into the correct order to make a logical essay format. Kinesthetic learners need the opportunity to physically manipulate text (Walling, 2006). When researching or brainstorming a topic, even with a tentative thesis in mind, students may struggle to figure out how to organize their thoughts. By having students write down key examples or facts that they want to include to support their points on notecards, they

can then have a tactile way to decide how their writing can be most effectively organized by shuffling the cards into different orders (Leopold, 2012). Students can practice rearranging their notecards or example notecards from the teacher to become comfortable with the concept of organization, and this activity can be used for both guided practice and independent practice.

Decompression

Decompressing activities and activities designed to follow kinesthetic activities can provide perspective to the class. According to Chisholm and Spencer (2017), ensuring that activities are followed by discussions will help the students' understand the connection of the objective to the activity, and it will help the teacher assess any gaps in knowledge that need to be filled. Though kinesthetic activities can be extremely helpful, the teacher must ensure that students understand why the activities relate to their day's objective, preferably both throughout and after the activity. Conversely, after a class that stresses visual and auditory learning, students, particularly kinesthetic students need time to process the information. Students who have been paying attention have been exercising their frontal lobe, which is involved in executive function (Zadina, 2014). If students are given the opportunity to doodle or draw about the lecture or content they have just learned, even for just a few minutes, they can give their frontal lobe respite, which will better prepare them to continue learning of the rest of the class (Zadina, 2014). It will also give them time to make connections between what they have just learned and their experiences and prior knowledge about the world (Zadina, 2014). Ultimately, these moments to pause and reflect may initially seem like a waste of valuable time, but they can allow students to reflect on the implications of what they have just learned, making them better prepared to learn in even non-kinesthetic ways.

Conclusions and Principles

The previously discussed techniques could have a place in any classroom, but some are more effective than others. Fidget toys seem to work for only certain types of students (Aspiranti & Hulac, 2021; Soares & Storm, 2019), but manipulatives can be effectively used for specific concepts (Adema, 2017; Ladenheim, 2014; Walling, 2006). For teachers who are struggling to include kinesthetic differentiation in their classrooms, they can start with simply adding small amounts of movement into ordinary activities (Culp et al., 2020; Haugland & Derby, 2021; Lemov et al., 2015; Zadina, 2014). After becoming comfortable with these techniques, these teachers can move to more kinesthetically focused techniques that may be more difficult to implement.

When determining whether a kinesthetic activity is useful or a waste of time, teachers can test the activity by a few standards. Do the activities only help kinesthetic students? While kinesthetic learners should certainly not be ignored, neither can visual and auditory learners (Culp et al., 2020; Singh et al., 2015; Tomlinson, 2005; Walling, 2006). If the activities are directed only to the kinesthetic students, they do not need to be eliminated, but they should be limited to occasional usage. Instead, activities that help students of different learning styles actively engage in their learning and increase cognitive function, such as the addition of motion in the classroom to increase BDNF (Haugland & Derby, 2021), should be preferred (Knaepen et al., 2021; Zadina, 2014). Additionally, are these techniques easy to explain and to transition from one activity to another, or if not, to reuse them throughout the school year as students already know the rules? If not, they will likely provide more hindrance than help (Chisholm & Spencer, 2017; Flippin et al., 2020; Haugland & Derby, 2021; Lemov et al., 2015).

Ultimately, what common themes do these activities share? Kinesthetic learning seems to work best when movement actively progresses learning (Chisholm & Spencer, 2017; Culp et al.,

2020; Gage, 1995; Haugland & Derby, 2021; Walling, 2006; Zadina, 2014), rather than as an afterthought or as a way to allow students to fidget (Bergman, 2012; Soares & Storm, 2019). Additionally, many of these activities can be adapted for instruction, practice, or assessments, so teachers can pick which best serves them and their students at the time. Perhaps most importantly, these activities point to the idea that the classroom is flexible, with a multitude of activities that can be used to help all types of students, whether auditory, visual, or kinesthetic.

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