



# Stimulating the Cognitive and the Psychomotor Domains of Students with Special Needs (MBK) through Theatre

Mohd Kipli Abdul Rahman<sup>a\*</sup>, Ghazali Ismail<sup>b</sup>, Lakshmi Perumal<sup>c</sup>,  
<sup>a,c</sup>Universiti Pendidikan Sultan Idris, Tanjong Malim, Perak, Malaysia,  
<sup>b</sup>Institut Pendidikan Guru Malaysia Kampus Bahasa Melayu, Email:  
<sup>a\*</sup>[kipli@fmisp.upsi.edu.my](mailto:kipli@fmisp.upsi.edu.my)

Teachers need to understand teaching and learning with Students with Special Needs (MBK), to implement that process. That requires delving into the right teaching approach. The Theatre in Education approach (TiE) can be applied to enhance cognitive and psychomotor domains among MBK. A study was conducted on an Inclusive Class in Tungku Ampuan Azizah School, Kuantan, Pahang using the Special Needs Students' Theatre Approach Manual (MPTMBK). Data was gathered through observation, open and closed in-depth interviews. Personal and official documents were analysed according to the recommended procedure for studies of grounded theory, which is open coding, axial coding and selective coding. The findings show compatibility, between the proposed idea and the events transpiring during the learning process. The participants showed increased self-confidence and active interactions with the teacher. Other than that, MBK can also memorise drama texts and act out several scenes that automatically prove a cognitive increase. Indeed, the TiE approach can innovate teaching and learning towards developing self-potential among MBK.

**Key words:** *Students with Special Needs (MBK), Cognitive, Psychomotor, TIE, MPTMBK.*

## Introduction

The statistics show that the total number of students registered with the Ministry of Education Malaysia (KPM) in 2016 is 5,120,802. Based on the Special Education Data Book (2015), there are 57,637 students with special needs, and they are registered in the Special Education



Program (PPK) under the Ministry of Education Malaysia. The PPK is specially designed for disabled students or special students, so they will not lag educationally. It has been embedded in the National Education System (SPK) since 1957. Following this, a special unit known as Special Education Unit (UPK) was founded in 1964 and placed under Schools Department, KPM, until upgraded to become the Special Education Department (JPK), KPM, beginning October 1995 (KPM, 2014). Given the KPM's latest blueprint, named Malaysian Education Development Plan (2015-2025) (PPPM 2015-2025), several steps can be taken by the Ministry of Education Malaysia to develop the Special Education Program (PPK). Indeed, the KPM has fully committed to encouraging more Special Needs Students, to move towards the Inclusive Education Model that is more systematic and integrated.

Theatre is one of the unique branches of social science. Its distinctiveness lies in the fact that the theatre can be seen from several angles and levels. Theatre can be examined through texts and authorship, production and directing processes, performance and its audience, aesthetics and various aspects of the intricacy of the arts. Theoretically, theatre is often referred as the 'special arts' because it has two forms of arts, literary arts from the perspective of the scripts and performing arts in terms of the stage work. Each has different systems and aesthetics, but they still have very close connections. Story-telling in theatre occurs through dialogues. It is these criteria that distinguish the theatre from other art forms. The term 'theatre' can be seen from two standpoints, macro and micro. For micro, theatre is described as a drama (one's journey shown on stage, viewed by many, and based on a certain script). For macro, theatre is all forms of actions displayed to the public, such as magic shows, acrobatic shows, *wayang kulit*, *mak yung*, *kuda kepang*, *silat* and various others.

In another development, the term theatre is often associated with the word 'drama'. In particular, drama originates from Old Greek, *draomai* which means acting, or doing something, and in French *drame* explains the behaviour of the middle class. In the academic context, 'theatre' often refers to a direct association with shows/stage shows, whereas 'drama' relates to the story used for a show or stage show. What is certain is the fact that theatre is a drama staged in the hall and watched by an audience while drama is one of the elements of theatre.

As early as the twentieth century, theatre was raised as a knowledge discipline that is able to turn a man into a better person, in terms of his intellect, spirituality, emotions and physicality. Several sides of the theatre, as the medium of education, are through teamwork and the instillation of moral values contained in the script (text/drama). A theatre work cannot be done individually, instead it is done in groups or collectively. Indeed, there are many positive impacts that can come through if something is done collaboratively especially among students; for example tolerance, cooperation, assistance, so on and so forth. Other



than that, through the dialogues and actions shown, normally theatre will raise awareness and give lessons to the public.

Since the emergence of the theatre until today, three functions of the theatre have always been debated; theatre as a medium for religion/worship, theatre as the medium of entertainment, and theatre as a medium of education. In brief, education is inviting, motivating, advocating, helping and inspiring other people to do positive things that can benefit themselves. Indeed, the function of the theatre as the agent of education cannot be disputed because it is a unique form of art and it has its own strengths.

### **Materials & Methods**

This study concentrates on how far the implementation of theatre technique in education is able to stimulate the both cognitive and psychomotor domains of Students with Special Needs (MBK). Theatre in Education (TIE) is a branch of knowledge that merges theatre and education. In this context, theatrical arts have been a method to help students in the teaching and learning process. Indeed, the theatre application in education boasts of many benefits. Students directly involved in teaching based on theatre-making will have a better understanding of what they learn. Cognitive domain is an evaluation of the capability to think in terms of their intellectual level, their capability of solving problems, ability to remember, and ability to combine ideas that can describe mental activities, from basics to the highest level, which is evolution (Bloom, et. al., 1964). Psychomotor refers to skills or the ability to act after one has received his or her own learning experience. It is related to physical activities. Examples include running, jumping, drawing, dancing and so on (Bloom, et. al., 1964).

Therefore, this study only targets Students with Special Needs (MBK). According to the Disability Act (2008), “Special Education”, specifically, is designed to fulfil the unique requirements of a disabled child in the classroom. It has its own regulations. According to Kavale & Forness (2000), special education in the public school system is developed as a special program separated from the general education, and is fixed as ‘special class’. Also, a special class is seen as the best way to overcome issues, other than preparing them for uniform education. According to Heward (2003), special needs children comprise children who find it difficult to learn. Smart children who have far better ability than their normal counterparts are also classified as special needs children. Both groups of students need some curriculum adaptation and special teaching method, to optimise their self-potential.

The special education school is an institution with an environment resembling normal classrooms, where educators would teach their students based on the syllabus deemed appropriate for them, or which leans more to special education students. In the Malaysian



context, special education schools had operated before our country gained its independence. The establishment aims to fulfil the educational needs of Students with Special Needs identified as having vision problems, hearing problems, learning problems, or physical disability at pre-school, primary, secondary and post-secondary levels. The education for MBK (with vision problems) started with the setting up of the Princess Elizabeth Special Education School in Johor Bahru, under the Welfare Office in 1948. Next, government involvement for the education of students with hearing problems began with the opening of the Federal Deaf Children School in Penang in 1954. After independence, the government broadened the special education program to mainstream schools, in the Integrated Special Education Program, until today when 33 special education schools operate nationwide.

This work was done on 11 Students with Special Needs who followed the Inclusive Special Education Program at Sekolah Kebangsaan Tunku Azizah, Bandar Indera Mahkota, Kuantan, Pahang. Students were selected according to *theory-based sampling*. As required by the Special Education Department, the MBK intake in this school is based on a strict guideline.

The study was carried out for only six months. Within that period, MBK were trained and taught using the theatre technique by trained teachers/facilitators. Teaching and learning took place for two hours every week, based on the Special Needs Students' Theatre Approach Manual (MPTMBK). During that process, data were gathered and analysed using several approaches.

In general, this study will look into the development of Students with Special Needs. It will do so through the implementation of the theatre technique, to make them more confident in communicating (cognitive) and to make them more energetic (psychomotor). Because of this, the *grounded theory* was the study framework. It identifies the extent to which the theatre technique in education can develop cognitive and psychomotor domains among the MBK. The knowledge discipline of *Grounded Theory* always serves as a study platform for researchers in social science, including education. Its principle generates a theory or new vision that is developed as the outcome of the data gathered on site. Accordingly, this study adopts the data collection method of observation, survey and interview. The three approaches have been selected based on the triangulation principle. It is very important to ensure the validity and reliability of a study. These methods are regarded as very appropriate, especially for ethnographical studies as practised in this current work.



**Table 1:** Study Procedure

Level	Functions/ Activities/ Action
1	Researcher makes a conceptualisation about the theme of the study surrounding Theatre in Education (TIE)
2	Researcher chooses and stresses on a certain phenomenon and determines a study question, which is the effect of the application of the theatre technique in teaching and learning on the development of the cognitive and psychomotor domains of students with special needs.
3	Researcher gathers all data through observation, survey, documents revision like program files, reports and articles related to special education students.
4	Researcher arranges, classifies and edits original data into accessible files to find the pattern from the data related to the theatre technique application on the development of psychomotor and cognitive domains of the special education students.
5	Researcher concludes study outcome using the triangulation method, through observation, survey forms and interview transcriptions.
6	Writes a report comprehensively and systematically and offers concrete researchers suggestions.

## Discussions & Findings

The data gathered through this study only focuses on the learning behaviour of Students with Special Needs during the teaching and learning process, using the theatre technique in the classroom. In other words, the focus of the study rests on MBK's feedback to all the instructions and activities they engaged with in the classroom. In teaching and learning, a teacher/facilitator used the teaching steps prepared through a teaching and learning manual called the Special Needs Students' Theatre Approach Manual (MPTMBK). During its implementation, students' behaviour would be observed and associated with their cognitive and psychomotor learning domains, as proposed through the Bloom Taxonomy Learning Domain. According to the taxonomy, learning happens when students are able to display meaningful behaviour during the teaching and learning, in line with the intended objectives. Therefore, the analysis focuses on the association between the module application by the teacher/facilitator, and the meaningful behaviour of MBK, in the effort to evaluate the level of their cognitive and psychomotor domains.

A total of 11 Students with Special Needs (MBK) were chosen as the study's participants. Based on the number, six were male students, and five were female. In terms of ethnicity, all subjects were Malays. Four were aged 7-9, six were aged 10-12, and only one student was more than 12 years of age. The types of student disability were as follows- three students



suffered learning difficulties, while one suffered epilepsy, hormonal seepage and hyperactive, respectively. Three others suffered autism and dyslexia respectively.

In terms of the subject teachers who teach the MBK, 12 teachers were involved in the study. Two were male, 10 were female. All 12 teachers for the MBK were Malays. Two teachers were under 20 years old. Eight were 31 to 40 years old. The rest, two others, were more than 40 years of age. In terms of experience, the majority teaching the MBK have taught for between five and nine years. Only one had taught for less than five years. Two teachers had taught for between 10 and 14 years. Next, only two teachers had taught for more than 14 years. Touching on academic qualifications, the majority of teachers, eight of them, had Bachelor Degrees. Four teachers had a Diploma. Training is also crucial, especially with regard to teaching and learning of special students. Ten teachers had received pre-service training, whereas all teachers (12 teachers) had obtained their in-service training.

Students with Special Needs who follow the teaching and learning in the Integrated Special Education Program experience various forms of disorder like dyslexia, Down Syndrome, slow learners, autism and epilepsy (Mottan, 2015). The disabilities cause some striking problems in articulation, voice and language fluency. Thus, their speech is difficult to understand and in terms of language acceptance, they have a problem in understanding, although understanding simple sentences like imperatives and declaratives. As asserted by educational experts, the implementation of teaching and learning (P&P) will be effective in three situations namely the pattern of interactions between students close to one another, the pattern of interactions between teachers and students, and the pattern of interactions between the students and the teaching materials. All three are very important as catalysts to the development of learning domains, including the cognitive domain and the psychomotor domain. Indeed, through the theatre approach in the classrooms, especially among MBK, all three situations can be seen clearly and remarkably during the teaching and learning process.

Based on the findings, the relationship between MBK and other MBKs is clearly very close. They work as a team for a theatre performance that will be presented during Teacher's Day at their respective schools. Every individual had a role to play and they had different characters. To act them out, they needed to memorise the script or dialogue given to them. Indeed, in a theatre performance, the script/dialogue is key to determining its success. The actors will make great efforts in memorising the script/dialogue so that the acting will be realistic. The failure to do so will cause the quality of the performance to be questioned. As a matter of fact, through the process of memorisation, they will really need each other. Every scene will succeed if they work collaboratively and with collective understanding among the actors. Great understanding can only be achieved through repeated rehearsals disregarding the place and time. This is evident through their mesmerizing performance, and the fact that the performance was applauded by the teachers. Such a reality is not bizarre at all. With support



from peers, teachers and also parents, these special children had been able to increase their mental capabilities. According to Barnes et. al., (1999) individuals with physical and mental problems may remove themselves from society, due to the many obstacles around them that they cannot handle. Every member of society has the opportunity to integrate with one another. This is anticipated to bring harmony and tolerance amongst each another, as they remove any negativity and also prejudice about the individuals' own disabilities.

Through the implementation of the Special Needs Students' Theatre Approach Manual (MPTMBK), these special children are able to express their feelings. They were given guidance to act out the story as contained in the manual. This helps them to understand the story that is to be delivered in a much simpler way, as they experience the situations themselves. Other than that, these special children felt that they were entrusted to perform and do the tasks assigned to them. This inculcated a sense of responsibility and self-appreciation. The children will learn easily when they get to listen to words with the same sounds, and they even got excited repeating the words.

Other than that, through the classroom theatre, the relationship between the Students with Special Needs and their teacher/facilitator is very close. The special youngsters were better able to form interaction skills with others. According to Schleien, Ray & Green (1997), disabled people take part in recreational activities to explore their environment, which will lead to successful adaptability to society. Their social engagement will help them learn and sustain the skills that are right for them individually, and they can also learn to accept or change the perceptions of other people who do not like them in some ways. The physical and mental disabilities of these people will make them dependent on others. This will directly make it difficult for them to socially interact with others, which becomes reasons for fatigue, depression and obesity among them.

In one MPTMBK module the special students have to memorise a short script titled "*Arnab dan Kura-Kura*" (A Rabbit and A Tortoise). The drama is characteristically based on nature and the environment. Therefore the special students were exposed to things that are beautiful and resemble the natural environment, so that they can get some ideas when producing the right costumes, makeup and sets. Among the activities that they had to do was to identify and detect their environment using their senses. For instance, they could see for themselves the colours and the shapes around them, and they had the experience of being in beautiful surroundings.

Through the implementation of the MPTMBK, the students acted the characters and uttered the dialogue in class. The MBK had also taken part in a puppet show where they were asked to read story books and, at the same time, move their puppet gloves. The activity increased their level of cognitive and psychomotor domains and simultaneously, it motivated them.



This is supported by Bolton (1984) who states that theatre is not only used as a medium of learning, but also to evaluate how well they memorise the script or how well they perform. In fact, theatre is one of the strategies of teaching and learning adopted to help one to further and better understand the reality behind it. The puppet theatre can become an excellent therapeutic tool to encourage the dialogue between the child and his puppet.

The use of puppet theatre enables the children to express their emotions. They communicate and express their feelings through puppets, without directly connecting it to their own feelings or emotions. When conducting the study, the researcher had also adopted several teaching methods used through the Special Needs Students' Theatre Approach Manual. One of the approaches is cooperative learning. It is very useful because it can help train the students to cooperate and work collectively, especially when it comes to students with autism, who often like to be alone and do not want to mingle with their classmates. Cooperative learning involves students' heterogenous group. That which allows the students to learn using various skills and characteristics to collaborate. It is a process of encouraging group members to help students with academic difficulties to achieve a better performance. Students engaged actively, to materialise the group's aim. As part of the group, students had the social skills to work together, and support those who might earlier be seen as different. Additionally, cooperative learning involves structuring the learning so that students get to work together in small groups, to achieve their academic aims collectively. Works by Hammond & Ingalls (2003), Bricker (2000) also Jones, et al., (2002) find that active involvement in class can make students bold enough to make their own decisions. The basic foundation that has become the mainstay of the MPTMBK would be activity-based learning. Indeed, all the modules covered lean on this aspect. The third module, for example, requires students to make the sounds of animals shown in the pictures. Then the students were asked to act out simple scenarios based on the animal's characteristics like a horse, frog, and so on. Our finding shows that the majority of the students were able to achieve C3 cognitive level (application) and P3 psychomotor (mechanism). This activity is really fun and able to increase the selected children's cognitive and psychomotor domains. This proves that activity-oriented learning encompasses education that requires a curriculum, which gives space to the students to learn through their personal experiences and physical movements.

It is relevant that theatre activities involve students' body movements. This is supported by Shepard (1997) who hypothesises that students physical activities at school can improve their academic performance. They increase the blood flow to the brain, increase their stimulation level, change hormonal seepage and boost self-confidence. Thus, this current work explains that theatre activities can also improve the health of Students with Special Needs. One of the objectives of this study is to increase the psychomotor domain of MBK, through theatre activities based on physical activities in classrooms. The teaching and learning activity based on one's physical state can be defined as an education process, where performance and





development can be enhanced through physical activities facilitating physical education, acquisition and skills enhancement. Physical education involves the whole body in meaningful movements; also it enhances one's self-concept socially and psychologically. Education involving physical movements is also appropriate, in giving children guided experience that encourages their development of physical stamina, through sports participation and other activities. Students' involvement in activities based on physical movements is also found to stimulate holistic development due to the combination of one's physicality (psychomotor) and thought (cognitive).

Thus, the aspects of psychology and physicality for Students with Special Needs can be strengthened through physical activities, or participation in theatre activities in or outside the classroom. Through physical activities, individuals' life quality can be increased; likewise their growth of happiness, life satisfaction, morality, self-concept, self-confidence, autonomous freedom, leadership, tolerance and understanding, not to mention problem-solving skills. Physical activities provide a long-term influence towards public health and wellbeing. For the disabled (in terms of mental and physical), it can spur self- and social development that can increase the effectiveness of their achievement of social status. Psychologically, *mood* will become better, confidence and self-esteem increase, and also anxiety and depression reduce as they face various kinds of pressure. This is very relevant for one who has a disability, where physical activities can be used to regain self-worth, social integration and achieve harmony (Chawla, 1994). Theatre activities give the best opportunities to the disabled to experience self-determination because they offer the chance for the individuals to control themselves.

Special students often have some difficulties during the teaching and learning process. Throughout the study, there was a hyperactive respondent and he was demonstrating that he was bored with the lesson. Two respondents fell under the category *slow learner*. They maintained that most of them lacked the motivation and interest to learn. However, based on the theatre activity-based teaching, the students were able to be involved actively in their learning. Their morality also improved and they were able to build their self-confidence. This is proven through the feedback from their subject teachers. Theatre-oriented teaching is very successful if used in a right and effective manner. This is because theatre is evidently able to sustain student-to-student interactions. In much the same way, theatre creates the role of the social relationships where students will become active participants. Theatre concentrates on meaningful negotiations and increases social efficacy, and listening and speaking skills. Our current study finds that through theatre activities in the classroom, it is easier to engage students' attention compared to the traditional teaching method.

One of the objectives of the Special Needs Students' Theatre Approach Manual for students is to stimulate the cognitive domain through communication skills. 'Cognitive' refers to a



child's self-control, specifically the capacity to control their behaviour themselves and to think before they act. Here, social-related drama activities will involve representation, negotiation, perspective use and problem solutions that directly change the way children think. This can be achieved through the dialogues uttered based on the script given. They are given the tasks without accounting for their respective weaknesses like learning problems, autism and dyslexia. Other than that, these students are stimulated to talk, share ideas and help each other through the activities. The aim is to encourage anti-discriminatory attitudes among special children. Indeed, the concept of socialisation is to develop communicative efficiency among special children and their disabled friends in the school environment.

Children with emotional and behavioural problems have very fragile social relationships. They are always aggressive, they are disruptive and often kickstart fights with their friends. They also do not like social interactions. In general, students who work in groups when the theatre activities are conducted in the classroom are often exposed to active communication. Thus, ideas are able to be expanded through verbal communication and non-verbal communication, especially when they are involved in theatre activities during teaching and learning. Thus, using the theatre method, the feeling of neglect among special students can be overcome, because they are required to socialise with one another for quite some time to make the performance succeed.

The teacher/facilitator who handled the teaching and learning based on theatre activities through the MPTMBK provided a reflection form. The responses given were very good. The situation was indeed very positive. This study has successfully opened the minds of the teachers, especially those who are teaching students with special needs. It is a fact that a positive attitude towards the theatre has to be instilled within every individual teacher. To change teachers' perceptions towards theatre, schools have to conduct more theatre workshops, where teachers can take part in studying and understanding the importance of theatre in the teaching and learning process. The reasons behind teachers' reluctance to get involved in theatre activities in class are multifarious; they do not know how to conduct theatre activities, they have limited resources and they do not have enough time. Referring to Metz (1989), the headmaster/principal also does not give good cooperation, so as to change teaching based on a theatre-oriented teaching book. This is one of the challenges for most teachers to implement any theatre program in their classrooms. This study further establishes that most schools have a limited understanding about the term 'theatre', and they tend to assume that it is unfamiliar to them, further leading to a lack of encouragement from schools towards the theatre pedagogy.



## **Conclusion**

The present study has been done to stimulate the cognitive domain and the psychomotor domain among special needs children through this theatre application. It has achieved the objectives. The study instrument that uses the Special Needs Students Theatre Approach Manual (MPTMBK) is seen to be able to stimulate the development of cognitive and psychomotor domains of special students who study in the Integrated Special Education Program (PKPI) at Sekolah Kebangsaan Tunku Azizah, Kuantan, Pahang. The study outcome has proven that the theatre technique can serve as an alternative method when implementing the teaching and learning process in the classroom. Overall, based on these findings, special children are very interested in the activities done through the MPTMBK. Theatre activities have given a great opportunity to these children in realising their imagination in various ways. They are excited about getting involved in theatre activities. More importantly, the teacher/facilitator is always prepared and is always planning carefully, especially in preparing materials that are to be used for an activity, because good planning contributes towards a smooth, successful process of teaching and learning.

## **Acknowledgement**

The authors acknowledged Universiti Pendidikan Sultan Idris, Malaysia for the funding of this research under the University Research Grant (GPU) 2015-0039-107-01 (UPSI). Our appreciation also goes to the teachers and students with special needs (MBK), who followed the Inclusive Special Education Program (PPKI) at Sekolah Kebangsaan Tunku Azizah, Bandar Indera Mahkota, Kuantan, Pahang, for providing assistance in obtaining primary information.



## REFERENCES

- Akta Kurang Upaya (2008), Retrieved from <http://rehabmalaysia.org/wp-content/uploads/2011/12/Akta-Orang-Kurang-Upaya-2008.pdf>.
- Bloom, B. S., Krathwohl, D. R., & Masia, B. B. (1964), *Taxonomy of educational objectives: The classification of educational goals handbook II: Affective domain*. New York: David McKay.
- Bolton, G. (1984). *Drama as education: an argument for placing drama at the centre of the curriculum*. London: Longman.
- Chawla, J. (1994). Sport for People with Disability. *British Medical Journal*, 308, 1500-1504.
- Barnes, C., Mercer, G., & Shakespeare, T. (1999). *Exploring Disability: A Sociological Introduction*. Oxford: Blackwell.
- Hammond, H., & Ingalls, L. (2003). Teachers' attitudes toward inclusion: Survey results from elementary school teachers in three southwestern rural school districts. *Rural Special Education Quarterly*, 22(2), 24.
- Bricker, D. (2000). Inclusion How the Scene Has Changed. *Topics in Early Childhood Special Education*, 20(1), 14-19.
- Heward, W. L. (2003). Ten faulty notions about teaching and learning that hinder the effectiveness of special education. *The Journal of Special Education*, 36(4), 186-205.
- Jones, M. N., Thorn, C. R., Chow, P., Thompson, I. S., & Wilde, C. (2002). Equifinality: Parents' and students' attitudes towards student-centered approach to integration. *Education*, 122(3), 624.
- Kavale, K. A., & Forness, S. R. (2000). History, rhetoric, and reality analysis of the inclusion debate. *Remedial and Special Education*, 21(5), 279-296.
- Ministry of Education Malaysia, (2014), Bahagian Pendidikan Khas. *Latar belakang*. Retrieved from <http://www.moe.gov.my/v/BpKhas>.
- Metz, M. H. (1989). Real school: A universal drama amid disparate experience. *Politics of education association year book*, 4(5), 75-91.



Mottan, K. (2015). A Pilot Study into an Integrated Special Needs Programme using CIPP Model. *Asian Journal of Assessment in Teaching and Learning*, 5, 57-66.

Shepard, R. (1997). Curricular Physical Activity and Academic Performance. *Paediatric Exercise Science*, 9, 113-126.

Schleien, S., Ray, M., & Green, F. (1997). *Community Recreation and People with Disabilities: Strategies for Inclusion (2nd ed.)*. York, PA: Maple Press Company.

Wagner, B. J. (1976). *Dorothy Heathcote, Drama as a Learning Medium*. Washington, D.C.: National Education Association.