Strategies on Instructional Delivery Method and Pupils’ Proficiency of the Pull-out Service Model in Elementary Special Education Setting

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Abstract The study aimed to develop strategies on instructional delivery method and pupils’ proficiency of the pull-out service model in special education setting in the three Maryland elementary schools of the research district in the eastern state of USA by determining the extent of utilization of instructional delivery method in terms of information processing, behavioral, social interaction, and personal, the level of proficiency of pupils in terms of Mathematics and Reading, and the issues and concerns in the pull-out service model in elementary special education setting. The subjects of this study were 65 teachers of the three Maryland elementary schools which were selected using purposive sampling. The study utilized descriptive and inferential statistics after data collection and tabulation. Weighted mean was utilized to describe the instructional delivery method and pupils’ proficiency of the pull-out service model in elementary special education setting. F-test was employed to determine the significant difference in the assessment of the utilization of instructional delivery method and pupils’ proficient indicators. T-test was employed to determine the significant difference between the pupils’ proficiency in Mathematics and Reading. Pearson’s determined if the instructional delivery method related to the proficiency of pupils. Results revealed that social interaction is not widely utilized. Meanwhile, the pupils have low level of proficiency in reading followed by mathematics. Further, the major issue in the pull-out program is the self-esteem of pupils with disability.

Keywords: pull-out service model, special education setting, instructional delivery method

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1. Introduction

Teachers started to emphasize the academic success of students with disabilities more. According to new laws, all students must receive a quality education, regardless of their color, social status, level of reading proficiency, or physical or mental disability. The education of students with disabilities has long taken place in special education classrooms. These classrooms typically concentrated teaching on particular disability-related areas for particular students. Due to insufficient time for teaching course material due to the time spent on disability remediation, this method resulted in students falling behind in the general curriculum.

The educational program known as "No Child Should Be Left Behind" created an accountability system that required schools, school districts, and states to reduce the achievement gap between various student groupings, including kids with disabilities, and the general student population. This brought attention to the success of students with disabilities. Education professionals have started exploring for solutions to close the success gap in general education settings, where non-disabled students are taught, because historically, students with disabilities have performed worse on standardized tests than their non-disabled peers.

A growing number of schools are working toward teaching students in inclusive courses that include a varied collection of students with and without learning disabilities, reading and math learners, and students from low socioeconomic backgrounds. In order to teach students with such a diverse range of abilities and backgrounds, accommodations must be made. It can be challenging for general education teachers to offer these accommodations while maintaining the high standards of "no child left behind" instruction. If changes are not made, struggling students fall behind academically and may experience behavioral issues. Teachers could feel overworked as a result. Reactive and combative teaching methods might lead to teachers losing patience and quitting their jobs as educators. Teachers who have received training in a variety of research-based instructional and behavioral teaching techniques are better equipped to instruct in a number of circumstances.

Disabled students are taken out of special education classrooms. With the pull-out service paradigm, special
education services can be delivered to disabled students who have been removed from general education settings. Students with disabilities are not afforded the same educational opportunities as those without impairments in a special education setting.

What do educators believe about pull-out programs and how they influence students who struggle academically in terms of stigmatization, morale, and overall classroom instruction? Are pull-out teachers and regular classroom teachers collaborating on educational instruction for students with learning challenges? Is it possible for regular classroom teachers to provide the instruction that students with learning disabilities need without endangering the focus offered to the other students?

For children with specific needs, such as those who have learning challenges, gifted students, or emotionally troubled students, pull-out programs are smaller-group instruction sessions. To provide the students a better chance of success, the learning program will be delivered to them in smaller class sizes with more personalized training.

The pull-out program entails escorting kids out of the classroom for individualized or small-group instruction that is catered to each student's unique learning [1]. While studies indicate that children may incur disadvantages as a result of missing out on classroom instruction and being pulled out of their regular class, it is clear that children gain from the extra attention.

According to federal legislation, special classes, separate education, or other forms of removal of children with disabilities must be avoided to the maximum extent feasible. This rule applies to children who are in public or private institutions as well as those who are in other care facilities. Disabilities from the ordinary educational environment only happen when a child's handicap is severe enough to prevent them from learning in regular classrooms with the aid of extra services [1].

The inclusive classroom frequently acts as a link between special education and general education classrooms in schools. Both students with disabilities and students without disabilities were present in this instance. With additional resources in place, students with disabilities were taught in the general education program. In these schools, there can only be one or two classrooms designated as inclusive for a specific grade level [2].

There were several types of inclusive staffing in the classroom. One strategy was cooperation or co-teaching. In this model, a general education teacher and a special education teacher were teamed [3]. In the collaborative model, teachers shared equal responsibilities for the classroom, from maintaining order and providing instruction to planning and grading. The special education teacher must be knowledgeable about the curriculum even though they are the educational specialist and the general education teacher is the content specialist.

The special education setting in the three Maryland elementary schools of the research district in the eastern state of USA is the subject of the study. It provides Pre-K to Grade Six (Gr 6). The schools are ranked average in terms of school quality. The pupils' performance on state tests and year-over-year academic improvement are both rated average. Regular pupils, as well as those who are intellectually and physically challenged, are served at the school. Teachers with special training provide extra care and attention to pupils who are differently abled or mentally challenged. The pull-out program is what it's called.

As a result, the study will add to the body of knowledge regarding the educational placement of pupils with impairments and the resulting achievement implications. Many studies have attempted to determine the most beneficial placement for pupils with disabilities, but the findings have been conflicting. Based on educational placement, it will provide predictors of possible achievement for pupils with disabilities. The majority of schools and school districts in the area struggle to provide pupils with disabilities with adequate academic accomplishment. If proficiency is not achieved, state and federal consequences will very certainly be imposed. Because of low subgroup exam scores for children with disabilities, some schools in the area were facing fines at the time of this study.

The study's strategies were chosen based on their success rates and ease of implementation. Each strategy, when implemented correctly, will improve student accomplishment, give teachers more instructional options, encourage a variety of learning methods for a wide range of student abilities, and aid in the integration of students with special needs into general education classrooms. Teachers who have a variety of educational options in the classroom are less frustrated and more productive. With these, and it's seen in today's push for problem-based learning, or the belief that pupils learn about a subject or topic by actively solving problems, as well as the emphasis on differentiated teaching strategies and instructional delivery method.

2. Objectives of the Study

The study aimed to propose strategies on instructional delivery method and pupils’ proficiency of the pull-out service model in special education setting in the three Maryland elementary schools of the research district in the eastern state of USA. Specifically, the study determined the extent of utilization of instructional delivery method in terms of information processing, behavioral, social interaction, and personal as assessed by teachers; determine the level of proficiency of pupils in terms of Mathematics and Reading; find out if there are significant variations in the assessment of the utilization of instructional delivery method indicators; find out if there significant differences between Mathematics and Reading proficiency of pupils; find out if the instructional delivery method significantly influences the proficiency of pupils; determine the issues and concerns in the pull-out service model in elementary special education setting; and propose strategies based on the analysis of the study.

3. Methods

This study employed a descriptive research design to facilitate understanding and analysis of the effective strategies on instructional delivery method and pupils’ proficiency of the pull-out service model in elementary
The subjects of this study were 65 teachers of the three Maryland elementary schools of the research district in the eastern state of USA which were selected using purposive sampling. Its purpose was to conduct the assessment in a special education pull-out program, which takes pupils out of the regular classroom and places them in alternative programming during the school day.

The study employed a four-point rating scale, numerical interpretation, and verbal interpretation in describing the effective strategies on instructional delivery method and pupils’ proficiency of the pull-out service model in elementary special education setting, along with the identification of issues and concerns. The study also utilized descriptive and inferential statistics after data collection and tabulation. Weighted mean was utilized to determine the instructional delivery method and pupils’ proficiency of the pull-out service model in elementary special education setting. F-test was employed to determine the significant difference in the assessment of the utilization of instructional delivery method and pupils’ proficient indicators. T-test was employed to determine the significant difference between the pupils’ proficiency in Mathematics and Reading. Scheffe’s as posthoc test helped in finding out which among the indicators have significant differences when paired. Pearson’s determined if the instructional delivery method related to the proficiency of pupils.

The informed consent assured the respondents that their responses and identities remained anonymous and their participation in the research is voluntary, and they are free to discontinue at any time. The information provided were kept confidential pursuant to the research ethical standards and the data privacy act. The study only assessed the relevant components and took into account the importance of maintaining the highest degree of objectivity in the discussion and analysis of the results. It explained that the findings in this study were not linked directly to each participant and was used only for academic purposes. All gathered information that the study coded were appropriately disposed of in accordance with applicable data privacy procedures.

4. Results and Discussion

The data gathered were analyzed and interpreted that became the basis in the formulation of strategies on instructional delivery method and pupils’ proficiency of the pull-out service model in special education setting.

The composite means of 3.45 attested that the extent of utilization of instructional delivery method in terms of information processing is moderate. It could be gleaned that, as assessed by teachers, building lessons upon pupils’ prior knowledge gained the highest weighted mean of 3.62, described as great extent. On the other hand, determining what other teachers have been doing to effectively use integration in the classroom as instructional delivery method. Teacher who is more adaptable and are better equipped can adjust to changing teaching conditions and navigate a complicated profession [4].

The composite means of 3.60 attested that the extent of utilization of instructional delivery method in terms of behavioral is great. It could be gleaned that, as assessed by teachers, recognizing students’ success through appreciative remarks and rewards gained the highest weighted mean of 3.75, described as great extent. On the other hand, starting lesson with a highly motivating activity, gained the lowest weighted mean of 3.40, described as moderate extent. Thus, teachers need to work on starting the lesson with a highly motivating activity as instructional delivery method. The goals, effort, persistence, and performance are all factors that influence a student's behaviors to learn [5].

The composite means of 3.33 attested that the extent of utilization of instructional delivery method in terms of social interaction is moderate. It could be gleaned that, as assessed by teachers, enthusing students to ask for help when they are not sure about something gained the highest weighted mean of 3.78, described as great extent. On the other hand, inspiring students to have regular partner-reading inside the classroom gained the lowest weighted mean of 2.89, described as moderate extent. Based on the findings, the results show that teachers need to work on inspiring students to have regular partner-reading inside the classroom as instructional delivery method. This is parallel in the findings shown in the study of Fuchs [6] that partner-reading allows students to take turns reading and provide feedback to each other in order to check comprehension.

The composite means of 3.49 attested that the extent of utilization of instructional delivery method in terms of personal is great. It could be gleaned that, as assessed by teachers, allowing students to discover new things and think critically about them, asking open-ended questions and acknowledge all responses equally, and encouraging students to pursue knowledge and not just good grades, gained the highest weighted mean of 3.65, respectively, described as great extent. On the other hand, it could be gleaned that, offering opportunities in the classroom where students can write their own critical questions about content, gained the lowest weighted mean of 3.12, described as moderate extent. Findings imply that teachers need to work on offering opportunities in the classroom where students can write their own critical questions about content as instructional delivery method. This is in relation with the pronouncement of Hassler [7] that the interaction between teacher and learners is the most important feature of the classroom.

The composite means of 2.86 attested that the level of proficiency of pupils in Mathematics is moderate. Pupils can build new knowledge from experience and prior knowledge, gained the highest weighted mean of 3.17, described as moderate. On the other hand, pupils can modify procedures from other procedures, gained the lowest weighted mean of 2.75, described as moderate. Documentary analysis also showed that pupils in three Maryland elementary schools in the eastern state of USA have low grades in terms of Mathematics. This is the main reason why teachers need the pull-out program.
Based on the findings, the results show that pupils find it difficult to modify procedures from other procedures which point out that most pupils have low performance in Mathematics. This is in conformity with the findings of Rea [8] that in some general classrooms, students with disabilities scored higher on achievement tests and their Individualized Education Programs (IEP), while others needed focused instruction through pull-out programs. In contrast, Fernandez & Hynes [9] conducted a similar study comparing inclusion (with aides) versus pull-out. They recognized no difference in achievement scores in math or reading with the exception that the pull-out students showed a higher level of letter-word recognition, which suggested that they received more skills building instruction in their pull-out program. The comparisons of studies showed inconclusive results as to which model was more effective in achievement for learning disabled students; but the studies indicated that both models may be needed for different outcomes.

The composite means of 2.83 attested that the level of proficiency of pupils in Reading is moderate. Pupils can retell what he/she have read, gained the highest weighted mean of 3.12, described as moderate. On the other hand, pupils can read smoothly at a good pace, gained the lowest weighted mean of 2.65, described as moderate. Documentary analysis also showed that pupils in three Maryland elementary schools in the eastern state of USA have low grades in terms of reading performance. This is the main reason why teachers need the pull-out program. The results show that pupils find it difficult to read smoothly at a good pace which point out that pupils have low performance in reading and most of the pupils are slow readers. This is associated with the argument of O’Connor [10] that reading words at a good pace for pupils’ age is a pretty good sign that pupils are sounding out words accurately (decoding) and getting to the point where they’re recognizing some words instantly.

Based on the results of the analysis of variance (ANOVA), result showed that there are significant variations in the assessment on the utilization of instructional delivery method indicators with p value of .009. Hence, the null hypothesis is rejected. This implies that if the teacher gives due recognition and rewards to students’ success or monitor students’ activities and can determine students who need more guidance and attention or at least is approachable if learners need their assistance, and then students are also free to interact with their teachers and with their peers. This further implies that the more positive is the behavioral interaction between teacher and learners, and among peers the better is their social interactions. According to Schwab [11] social participation (e.g., peer interactions) of students diagnosed with special educational needs must be focused upon as they are at a higher risk of being socially excluded compared to students without special educational needs.

Result of the study is also similar with the study of Isaksson [12] who explored how schools socially construct identify and support pupils with special educational needs. They also explored if there were any dominant patterns in the schools’ procedures to differentiate pupils with such needs from normal pupils, and how such patterns can be understood in a broader context of educational policies.

There are significant variations in the assessment on the utilization of instructional delivery method indicators with p value of .009. Hence, the null hypothesis is rejected.

The level of proficiency of pupils in Mathematics has no significant difference with level of proficiency of pupils in Reading with mean of .02291 and p value of .750. The findings indicate that reading proficiency accounts for a large proportion of variance in mathematics and science. The results tend to be similar with the findings of Ercikan [13] where the authors revealed that in mathematics, reading proficiency accounted for approximately 40%.

Meanwhile, the data revealed that the extent of utilization of instructional delivery method in terms of information processing, behavioral, social interaction, and personal, has significant correlation in the pupils’ level of proficiency in Mathematics and Reading. Hence, the null hypothesis is rejected.

Based on the findings of the study, the extent of utilization of instructional delivery method has large impact on the pupils’ level of proficiency. Hence, the null hypothesis is rejected. Relatively, the study of Adalikwu & Iorkpilgh [14] revealed that students taught with instructional materials performed significantly better than those taught without instructional materials and also that the use of instructional materials generally improved students’ understanding of concepts and led to high academic achievements.

The composite mean of 3.27 attested that the issues and concerns in the pull-out service model in elementary special education setting is high. The pull-out program improved the self-esteem of pupils with disability, gained the highest weighted mean of 3.63, described as strongly agree. On the other hand, pull-out pupils have a difficult time focusing because of the shift from one environment to the other, gained the lowest weighted mean of 2.83, described as agree.

Results revealed that the teachers strongly agreed that the pull-out program improved the self-esteem of pupils with disability. Results also indicated that not all teachers agreed that pull-out pupils have a difficult time focusing because of the shift from one environment to the other. However, the highest rating still indicates that most pull-out pupils have a difficult time focusing because of the shift from one environment to the other.

Based on the interview transcript, the major issues and concerns in elementary special education setting includes students missing general education instructions, social interaction, absenteesism, uncoordinated teaching efforts between the regular and special education, and difficulty in the transitioning between the classroom and the SPED room, appeared to be the major issues and concerns in elementary special education setting.

One big issue with a pull-out model is the missing general education instruction. The students missed out what the mainstream class is doing. Sometimes when students return to their main classroom after the pull-out session, they are not in sync with what their peers are doing. It is mentioned that as long as the pull-out teacher and the General Education teacher collaborate for the students, it should work. This is evident in the response of Respondent C, “When students are pulled from class, they miss instruction. Pull-out programs are not effective without worthwhile instruction”.
In terms of the issue with social interaction, it could be noted that students are missing key instructions when out of the classroom and SPED teachers don't collaborate or give them grades. Students who get pulled out are missing the general education instruction and the time to interact with peers at different levels of academia. These issues and concerns can be difficulty for some students. Students tend to miss some classroom activities and academic content because when often re-join the class during instructional times, it requires them to catch up in order to complete work so they don’t have time to interact with other students.

Another biggest issue in elementary special education setting is the uncoordinated teaching efforts between the regular and special education. This is evident in the statement of respondent B, “Problems associated with pull-out placements include disruption of classroom instruction, failure to increase academic learning time, failure to produce a transfer of knowledge between the special education and regular classroom, uncoordinated teaching efforts between the regular and special education”. There should be better communication between ESOL and general education teachers.

Teachers revealed that lack of collaboration with General Education teachers was a crucial issue. Over half the teachers said that they did not collaborate in any way with the General Education teacher on their students’ progress and curriculum. Math teachers especially complained that when the pull-out teacher instructed a student to work out problems one way, but the classroom teacher instructed a different way, it caused the student confusion. Some teachers said they might get a quick update from the pull-out teacher as they passed each other in the hallway. Only few teachers said they collaborated with the General Education teacher because the students had extensive learning needs.

When asked how they may describe the elementary special education setting, respondent indicated that it is self-contained and a work in progress with current development. Others define the program as something that is catered toward students who have special educational needs due to learning difficulties, physical disabilities, behavioral issues, etc. Some describe the special education setting focusing on the physical environment, schedule and accommodations/modifications. The students’ academic and social developments are considered in all decisions that are made. Elementary special education setting was also pronounced as a mix of pull-out services and push-in support and a combination of pull out and pushes in, based on students’ needs and service hours. One respondent mentioned that there seems to be 1 or 2 SPED students per class in his experience.

Meanwhile, when asked how they were able to manage the abovementioned issues and concerns in the special education setting, respondents affirmed that they try to be more open minded, they develop consistent procedures, think about how they want everyday classroom practices to run, and always ensure students enter a classroom on teachers’ terms and focus on classroom. They also see to hold continued conversations with the pull-out teacher. One respondent emphasized that collaboration with the SPED minimizes some of the issues that arise. Small group or one to one instruction is effective in providing students with information that may have been missed. Some try to assist the general educator with work samples to supplement their grade books while others communicate closely with General Education teachers about what the students has done in pull out and what she/he should expect the students to do so the plug-in is seamless for the students. Finally, they make sure that targeted skills are aligned with goals of the adviser and data are available for comparison.

When questioned about other methods they can recommend to be part of the proposed effective strategies on instructional delivery method, majority suggested the following: let the students choose, allowing the class to choose the content that teachers read in class can improve engagement; read aloud to the class; implement the 3-2-1 strategy and use graphic organizers; bring back self-contained for SPED students who have difficulty with inclusion; the goals on IEPs should have correlation to the general education instruction, for example, if the learning goal is to identify literary elements in a story, the story could be the one that the general education classroom is currently reading. This way, the child who is in special education has some sort of familiarity with the text. Therefore, when they return to the general education setting, they are not disoriented with what their peers are reading and learning about; continue to provide students with activities that include kinesthetic, tactual, auditory and visual opportunities; find a strategy that works for the individual student's needs; and flexible combination of both push-in and pull-out based on lesson topic and students’ needs. When students receive instruction in small groups, they naturally also receive more of the teacher's attention. In the ESL pull-out classroom, this means the students have more opportunities to practice speaking when giving answers, as there are fewer children competing to talk; students who receive intense, individual attention focused on increasing their language. Pull-out method allows the students to receive more individualized attention in small groups. A teacher can arrange the groups according to language level so that he or she may provide the appropriate amount of rigor in each lesson.

The pull-out program involves taking students out of their classroom for individualized or small group instruction; the instruction targets each student’s learning need. While students receive focused attention, research indicated they might also suffer drawbacks because they miss classroom instruction and often face stigmatization or feel inadequate for being pulled out of their regular class.

Results from the interviews revealed that the elementary school teachers were supportive of the pull-out model and used it in conjunction with the inclusion model. This created a blended approach toward teaching a diverse group of students. Based on the interview transcript, the pull-out students in this study had learning disabilities, which required small group or one-on-one instruction. However, their disabilities were not severe enough to require them to be placed in a special need’s classroom. Overall, the general classroom teachers felt the pull-out program was important as it provided skills that they could not teach in the classroom. Additionally, they confirmed that the pull-out model provided a small
environment that was less distracting and specialized instruction that could not be achieved in the larger general classroom. The findings revealed that the schools had made some level of progress in how the pull-out program was implemented. The research exposed issues with the pull-out program that teachers continued to struggle with and how they worked around those disadvantages. Teachers also provided suggestions for improvements to both, the pull-out and inclusion models.

Focus group discussion (FGD) was conducted to facilitate key teachers' views on instructional delivery method and pupils' proficiency of the pull-out service model in elementary special education setting. 6 teacher-participants participated for the FGD. The study's proposed strategies were chosen based on the study's findings and their ease of implementation. The proposed strategies include the instructional delivery method, strategies, activities, and success indicators.

In terms of information processing, the researcher proposed Co-teaching Strategy. Alternatives to resource rooms and pull-out special education programs include co-teaching. In co-teaching, within one single classroom, one general education teacher and one special education teacher share all teaching responsibilities. It has the ability to bring together the best teacher abilities for the benefit of all pupils. The general education teacher can bring his or her knowledge of curriculum organization, content, and pacing. Individual children's specific learning requirements can be identified by special education teachers, and curriculum and instruction can be tailored to meet these needs.

In terms of behavioral, the researcher proposed the Direct Instruction Strategy. In this strategy, teachers use this method to give frequent positive feedback or corrections. Lessons should provide opportunity for students to practice skills that have been taught previously. To reinforce learning, information should be repeated over time. Repetition is a critical component of real learning in Direct Instruction.

In Social Interaction, the researcher proposed the Class Wide Peer Tutoring Strategy. The goal of Class Wide Peer Tutoring is for students to learn weekly topics and demonstrate their knowledge of that information through evaluations. Students will evaluate their progress based on their test results. A class game format can be implemented in the Class Wide Peer Tutoring offered here, so students can quantify their achievement by the number of points obtained by themselves and their team. When using the Class Wide Peer Tutoring for reading, partners should be paired up with people who have different ability levels. Readers with higher ability levels can assist readers with lower skill levels. Teachers should keep an eye on pairings and make any modifications. Once paired, each partner will tutor the other by giving a word to spell, a math fact to remember, or listening to literature being read. Correct responses earn points, while errors are quickly corrected and recorded. Additionally, the teacher might give pupils points for good behavior. For points and social reinforcement, the two teams compete.

Finally, in terms of personal, the researcher proposed the Self-Monitoring Strategy. A self-monitoring program requires nine phases to be properly implemented: determine the particular behavior; gather baseline information; teach a substitute behavior; choose or make self-monitoring chart; show the pupil how to operate the system; encourage good behavior; keep track of pupils' progress; the adult's role in the intervention should be minimized; and teach maintenance.

5. Conclusion and Recommendation

Based on the findings, the study concluded that the instructional delivery method for social interaction is not widely used in three Maryland elementary schools in the eastern state of the United States. Meanwhile, students in three Maryland elementary schools perform poorly in reading, followed by mathematics. Furthermore, the self-esteem of students with disabilities is a major issue in the pull-out program.

It is also concluded that teachers have different perspectives on the extent to which instructional delivery method indicators are used. In contrast, there is no statistically significant difference in students' levels of proficiency in Mathematics or Reading. Similarly, the extent to which an instructional delivery method is used has a significant correlation with the level of proficiency of the students.

It is recommended that the proposed strategies be submitted to the Education Department for evaluation and validation for their feasibility and viability so that they can be used as a concrete plan/guide for schools that may need to be improved. The proposed strategies may be used by the three Maryland elementary schools of the research district in the eastern state of the United States to improve students' math and reading proficiency and to address issues and concerns in the pull-out service model. General Education and Special Education teachers should collaborate to introduce new content, work on skill development, clarify information, and facilitate learning and classroom management. Similar studies for future researchers could be conducted in the future.

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