

Motivating students with Autism Spectrum Disorder (ASD) through Co-Teaching Models in an Integrated Classroom: A Pilot Study

Background

In an integrated classroom, differences in students' abilities and learning styles can bring a great challenge for teachers of vocational education. Some ASD students may not be good at reading and writing. They may feel uncomfortable working in a large group. To help ASD students better adapt to an integrated classroom and engage them in the learning process, the role of a teacher becomes important as the teacher could proactively plan and carry out varied approaches to content, process, and product in anticipation of and response to students' differences in readiness, interest, and learning needs (Tomlinson, 2001). The Co-teaching Models (Isherwood and Barger-Anderson, 2008) could be considered in order to provide ASD students with an opportunity to experience how to build up a good communication with their classmates and to help them to learn better.

Objectives

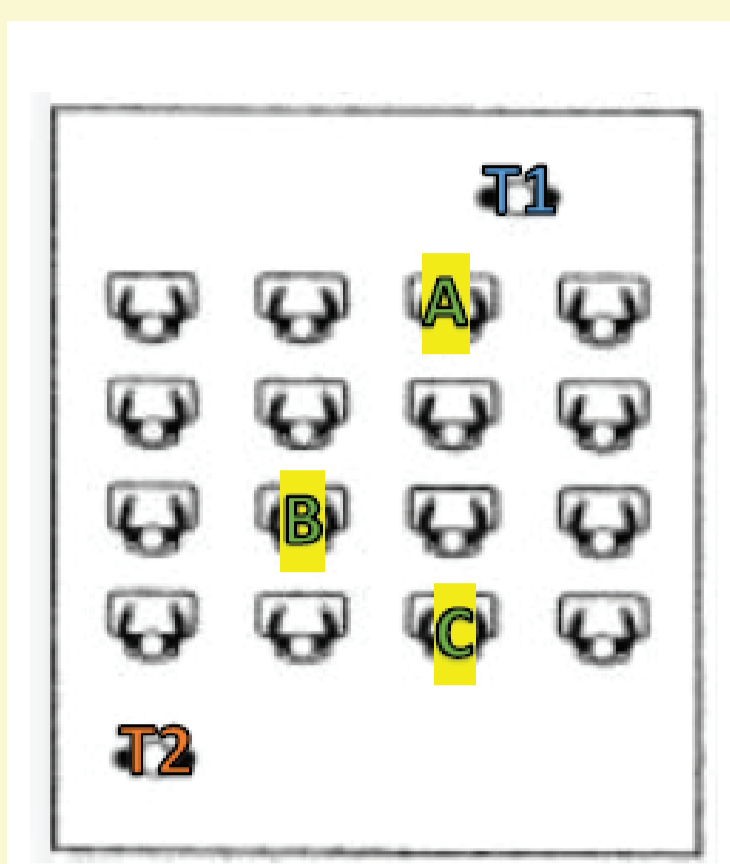
This study examines how ASD students' learning motivation has been changed by students themselves during the application of Co-teaching Models.

Method

This is a multiple case study of six students with ASD in a diverse classroom during a pilot study of applying various Co-teaching Models in a lesson in 2017. Teachers applied Co-Teaching Models into their classes in order to study the level of ASD students' learning motivation during in-class activities. This study adopts an interpretive approach. Six ASD students are the first year from the programme of Foundation Diplomas. Data was collected through face-to-face semi-structured interviews and lesson observations. After the class activities, comments from teachers and ASD students of vocational education were collected to examine the implementation of co-teaching strategies and to study the level of learning motivation.

Conclusion

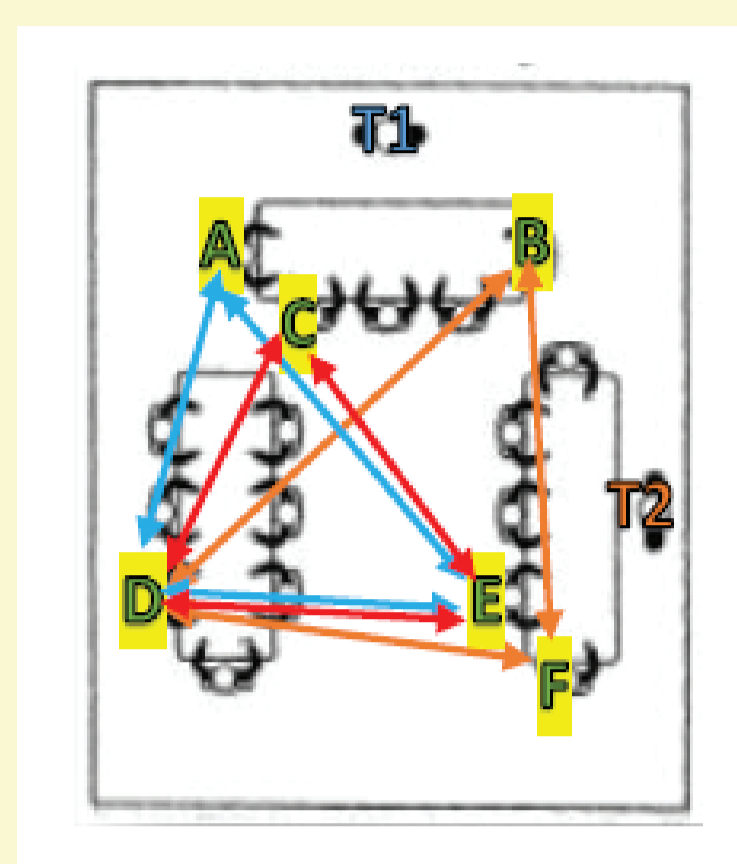
Data analysis was used to compare teachers' conceptualization of the implementation of co-teaching models and ASD students' learning motivation, in the context of VPET. The findings revealed on-going development of Co-Teaching Models for diverse students in the context of VPET.



Model 1: "One Teaching and One Observing"

Purpose: to be used in a class that data needs to be collected for analyzing students' behaviors.

Pilot Demonstration: One teacher (T1) handled all instruction while the other teacher (T2) observed the class. T2 would take notes on students' strengths and weaknesses and would make own individual report for each student with Autism Spectrum Disorder (ASD).



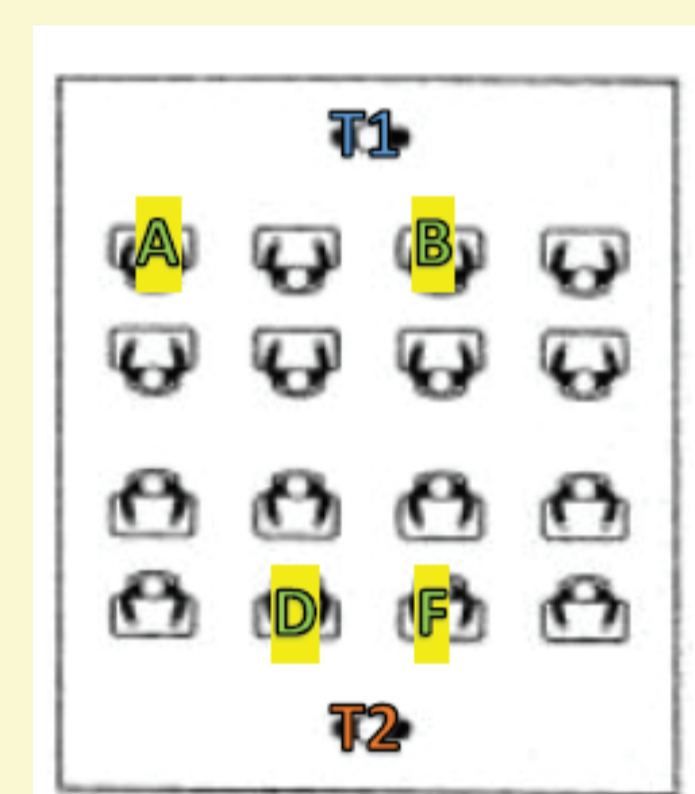
Model 2: "Station Teaching"

Purpose: to decrease student teacher ratio, present targeted instructional content and/or cooperative learning.

Pilot Demonstration: Teacher 1 (T1) and Teacher 2 (T2) were individually at their own station(s). Each teacher planned and provided direct teaching instruction for the differentiated students at own station(s). Students remained in their groups, and started their assignments independently. All students could rotate from group to group during the lesson if needed help. For example, T1 taught about the presentation guideline of a project, T2 taught about the process of data collection for the project, and the remaining group worked independently on the computers (i.e. search online about the presentation topic). All students could move actively from station to station, that depended on their learning needs. Students with Autism Spectrum Disorder (ASD) could rotate around from station to station if necessary.

Participants	Findings
ASD Student A (A), B (B) and C (C)	<ul style="list-style-type: none"> Students with ASD were exposed to the auditory and tactile stimuli simultaneously. For example, teacher's voice, gestures, and eye contact. Students with ASD were absorbed by the messages or instructions from the second teacher during the class. They felt energetic by an extra teacher in the class.
Teacher 1 (T1) and Teacher 2 (T2)	<ul style="list-style-type: none"> Two teachers worked together by sharing planning, presentation, assessment, and classroom management in order to develop differentiated curriculum that met the needs of diverse students in an inclusive classroom. T2 was a new teacher. This teaching model was strongly helpful for a new teacher to adapt an inclusive classroom.

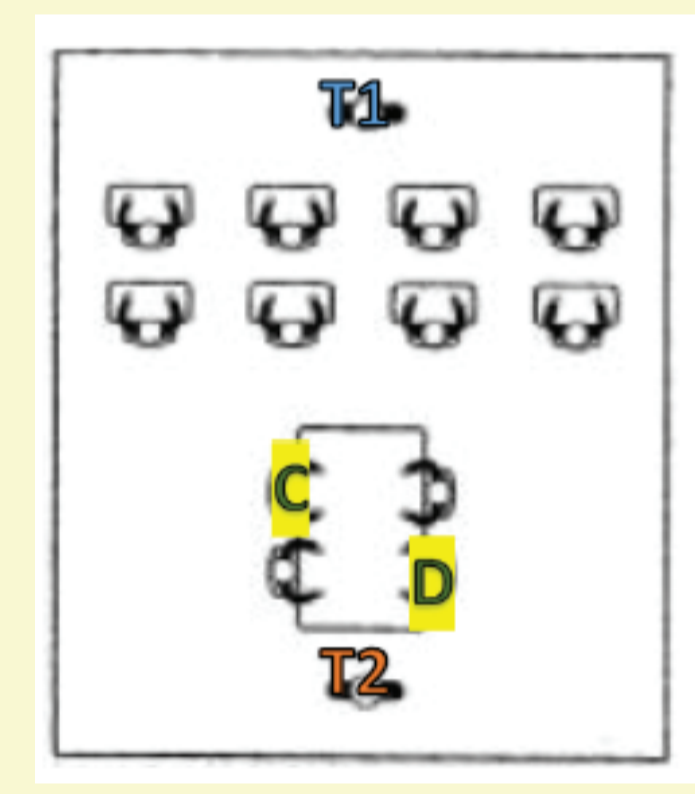
Participants	Findings
ASD Student A (A), B (B), C (C), D (D), E (E) and F (F)	<ul style="list-style-type: none"> Students with ASD were motivated in a sensory classroom. They were willing to follow other students to fill in the worksheet at the learning station. Students with ASD felt positive to learn and were engaged to learn from others. Students with ASD loved moving around from station to station to learn. It was fresh for them. New stimulation in a sensory learning pathway could engage and motivate ASD students to learn better. Students with ASD could independently learn and/or might seek extra helps from teachers naturally. In a sensory learning area, students with ASD were motivated and learnt better.
Teacher 1 (T1) and Teacher 2 (T2)	<ul style="list-style-type: none"> Two teachers could develop various levels of teaching and learning packages for differentiated students. Each student was exposed to similar materials, but groups could be differentiated by levels. Effective communication and classroom management both for the teachers and students could be found smoothly. Teachers could have more time to cater for students with Special Educational Needs (SEN).



Model 3: "Parallel Teaching"

Purpose: to decrease student teacher ratio and target students' instructional needs.

Pilot Demonstration: The class would be split in half at the same time. Teacher 1 (T1) and Teacher 2 (T2) would take a half of the class to teach the same topic with the same materials. Teachers could design activities for own group.



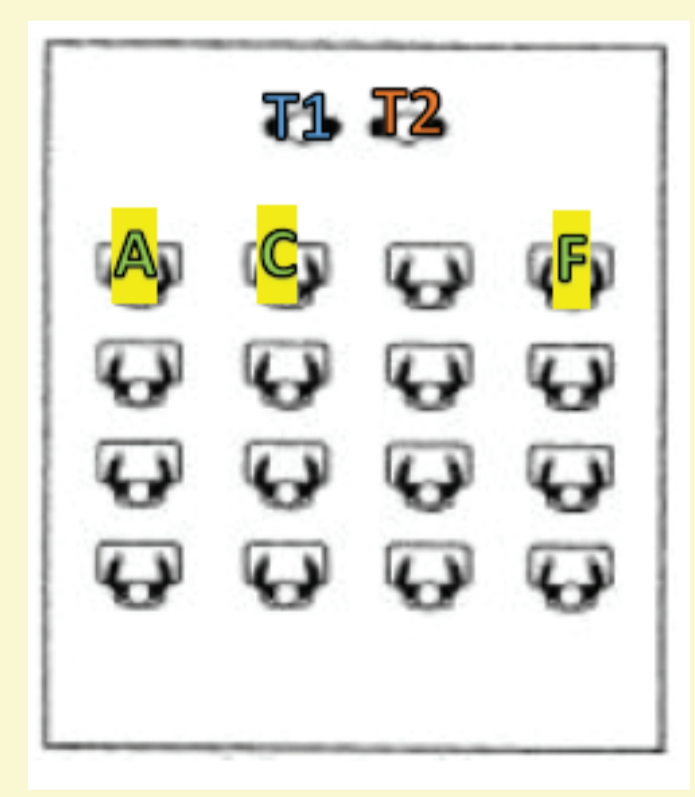
Model 4: "Alternative Teaching"

Purpose: to re-teach the at-risk students while providing accelerated content to the remaining students.

Pilot Demonstration: Teacher 1 (T1) taught the main lesson to a larger group of students while Teacher 2 (T2) worked with the smaller group of students on an entirely different lesson.

Participants	Findings
ASD Student A (A), B (B), D (D) and F (F)	<ul style="list-style-type: none"> 4 students with ASD presented that they felt uncomfortable in this class, and they could not really pay attention during this class. Student A and B told that there were two teachers' voices surrounding around them, which was hard for them to understand the individual teacher's instruction clearly. For Student C and D, they tried to integrate into this class and joined in the group discussion, but they pretty enjoyed accessing to the instructional lesson, such as group discussion. Although some negative feedback from students with ASD was found, they also accessed to the lesson with instructional support from peers and teachers. There are more opportunities for social interactions between peers and teachers. However, a main finding of applying Parallel Teaching Model was to increase respect and understanding for all students during the lesson.
Teacher 1 (T1) and Teacher 2 (T2)	<ul style="list-style-type: none"> Teachers could provide a smaller group and thus more individual attention. Teachers could provide control for socially-based behavior problems between students. Teachers could require collaborative planning before the class. This model could be difficult for teachers to invisibly differentiate in a smaller group. Teachers were recommended to have equally strong in the materials to be presented under this co-teaching model.

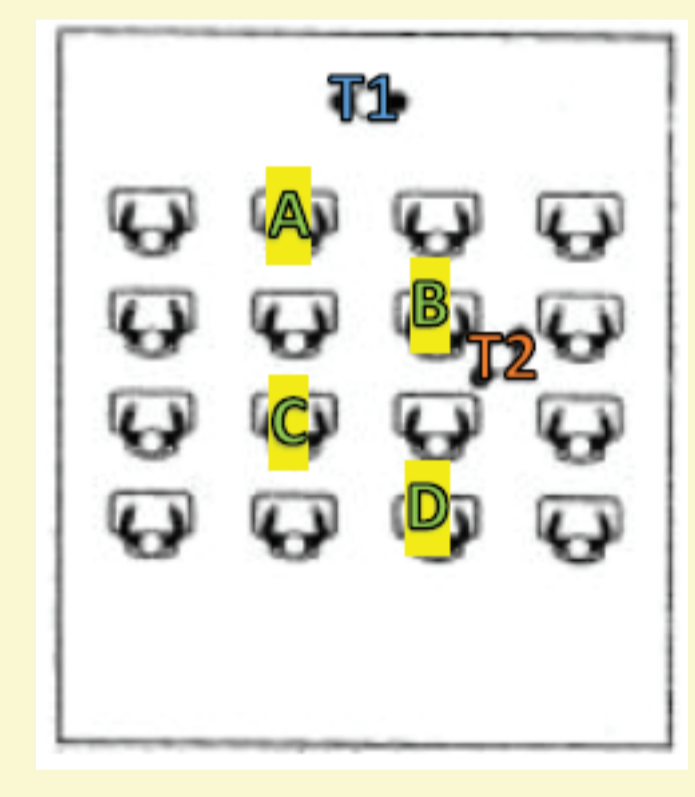
Participants	Findings
Student C (C) and D (D)	<ul style="list-style-type: none"> Students with ASD in this class performed better on measures than students in single-teacher classes. Students with ASD could achieve in a slightly different way. Students with ASD could be given the opportunity to learn in a small group, and received better grades in co-taught classes compared with other classes.
Teacher 1 (T1) and Teacher 2 (T2)	<ul style="list-style-type: none"> Teachers could provide excellent differentiation opportunities. Teachers could provide a chance for remediation or enrichment for students who need it Teachers could provide behavior control in the smaller group. Teachers addressed that this co-teaching model might reduce the efficacy of inclusion by separating students with special needs



Model 5: "Teaming"

Purpose: to share the role of lead teacher in delivering instruction and providing student support.

Pilot Demonstration: During the class, two teachers acted as the same things at the same moment, and they facilitated a discussion while performing different roles. Teacher 1 (T1) was discussing about the writing topic with the class; Teacher 2 (T2) was writing their ideas on the board emphasizing key points.



Model 6: "One Teaching, One Assisting"

Purpose: to deliver instruction and monitor student progress.

Pilot Demonstration: Teacher 1 (T1) instructed the class while the Teacher 2 (T2) managed behavior or assisted individual students as needed. T1 led the whole class. T2 provided supports, answered questions, monitored student behavior, etc.

Participants	Findings
Student A (A), C (C) and F (F)	<ul style="list-style-type: none"> Students with ASD could access the general education curriculum although they needed more instructional support. Students with ASD could learn from peers and get more opportunities for social interactions, such as increasing respect and understanding for all students. The collaboration between regular and special education teachers for all of the teaching responsibilities of all students assigned to a classroom. Both teachers worked together by sharing planning, presentation, evaluation, and classroom management in order to develop differentiated curriculum that met the needs of a diverse student population. (Gately and Gately, 2001, p.41)
Teacher 1 (T1) and Teacher 2 (T2)	<ul style="list-style-type: none"> Teachers reported that this co-teaching model increased the sense of respect for building a good relationship between peers. Two teachers could provide perspectives on a topic during the class. Two teachers' teaching strategies, ideas and feedback were simultaneously found.

Participants	Findings
Student A (A), B (B), C (C) and D (D)	<ul style="list-style-type: none"> Students with ASD would get more help in the co-taught class, multiple instructional approaches were employed, multiple teaching styles and teacher perspectives were offered, and more skill development was possible. Students with ASD were encouraged to learn during the class. They were engaged and motivated easily. Students with ASD would focus on their positive behaviours that earned the reward.
Teacher 1 (T1) and Teacher 2 (T2)	<ul style="list-style-type: none"> This model allowed a teacher who might be instructionally strong to deliver instruction without interruption. This model demonstrated the potential as well as the complexity of collaboration that joined the fields of general education and special education. Teachers helped their students succeed under this co-teaching model. It would seem a simple matter for two teachers to blend their expertise so that a shared and diverse group of students would learn more.