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IMPROVING ONE TEACHER'S INSTRUCTIONAL PRACTICE USING CLINICAL SUPERVISION: An action research study for teaching in 21st century classrooms

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Teachers worldwide are responsible for facilitating student learning. Stakeholders, including 21st century students in today's classrooms, place high demands on teachers to provide students with skills of critical thinking, problem-solving, collaboration, leadership, effective communication, and analysis. This action research highlights the use of a clinical supervision intervention to improve a teacher's pedagogical skills in selected student-centred teaching strategies that were intended to promote teacher effectiveness. It also investigates the influence of these strategies on students' learning. Findings reveal an over-reliance on traditional teacher-centred strategies by the teacher prior to the intervention. However, post-intervention findings show the teacher's shift towards student-centred teaching, development as a reflective practitioner, students' increased interest and participation in learning, and students' improved perception of the subject taught. While there were challenges in implementing the intervention, one can conclude that the time and effort invested in this intervention made it a success.

Introduction

Classrooms across the globe comprise diverse learners with differing abilities and multiple intelligences who come from many different socio-economic and cultural backgrounds. Teachers, therefore, must use various teaching strategies to meet learners' diverse needs in order to promote and improve learning. Yet despite the global thrust toward the use of modern teaching strategies to meet the needs of these 21st century learners, theorised as "constructivist" strategies with roots as far back as 1978 (Vygotsky), 1972 (Piaget) and 1933 (John Dewey), many teachers, according to Applefield et al. (2000), continue to use one main approach to teaching: the traditional, teacher-centred approach. This is often the preferred style at the college and university levels, even today. According to the Organisation of Economic Cooperation and Development (OECD) (2009, as cited in Saavedra & Opfer, 2012), teachers' dissemination of

facts to students via textbooks and lectures dominate classrooms worldwide, indicating little or no variation across decades of schooling provision.

While traditional teaching methods have proven to be effective in times past and in certain teaching situations, for instance, when time is short or where demonstrations are necessary, it is unwise to adhere to these by overlooking that we live in the 21st century, with 21st century learners, and 21st century technology available. There is a fundamental need to effectively teach skills, such as critical thinking, problem-solving, collaboration, leadership, effective communication, and analysis, as these skills have always been important for understanding and developing our world. The demands of the age and the unsatisfactory performance of many students in schools indicate a need to move towards teachers' adoption of student-centred teaching strategies that promote higher-order thinking, more meaningful learning, and effective communication skills. These strategies would better meet students' needs and reduce the gap between learner profiles and teaching-strategies used.

This study, conducted in Trinidad and Tobago, was guided by the following research questions: (1) What teaching strategies were used by Ms. Goodwill in her Form 3 Spanish class, pre-intervention? (2) To what extent can a clinical supervision intervention in the use of varied teaching strategies—KWL, think-pair-share, jigsaw approach and WebQuest—assist her in using more student-centred approaches and reducing reliance on teacher-centred strategies? (3) To what extent has students' learning been influenced by Ms. Goodwill's use of the named student-centred strategies?

Literature Review

Current Strategies

The recognition that teaching in the 21st century is similar to that of the 18th century has been established in the literature. John Goodlad's extensive research provides supporting evidence that classrooms today are not different from 25 years ago, with teachers talking much of the time and students having to listen (Gall & Acheson, 2010; Goodlad, 1984). Classrooms, then and now, have impersonal student-teacher interactions, few positive one-on-one interactions, low levels of instructional feedback and considerable instructional time spent on basic instead of higher-cognitive skills. This reliance on teacher-centred approaches, as

recognised by Saavedra and Opfer (2012), continues to dominate classrooms worldwide. Trinidad and Tobago is no exception (Melville-Myers, 2001). Teachers' over-reliance on teacher-centred strategies with a focus on content, in turn affects students' learning. The learning process is controlled by the teacher and promotes passive students working individually. Students learn by rote, with teachers and textbooks as the main sources of information (Smit & de Brabander, 2014). Students become used to relying on the expert (Hockings, 2009). Researchers (e.g., Camacho & Legare, 2015) object to viewing learning as a spectator sport, insisting upon adaptation of teaching methods and styles that focus on the learner. There is hope, incidentally, in the discourse of contemporary education, which promotes the idea of "student-centred" education as the global agenda for instructional design and pedagogy, regardless of subject area, geographical location or educational institution level.

The move towards constructivist teaching strategies that promote student-centred instruction and incorporate active learning is not new, since these strategies have "dominated several decades of educational practice" (Schrader, 2015, cited in Krahenbuhl, 2016, p. 98). Goe (2007) indicates a recent movement from holding schools accountable for student achievement to holding teachers accountable. Support for teachers' accountability is echoed by Darling-Hammond (2007) and Cohen and Hill (2007) (both cited by Benigno, 2016, p. 128), who posit that "teachers hold the key to student achievement", and Toch (2008), who recognises the quality of teachers in the classroom as the largest influence on student-achievement.

However, while a focus on constructivism and constructivist approaches is encouraged, it is important to recognise, as suggested by Danielson (2007), that there is value in traditional approaches; teachers must know which approach to use and when to use it. This can prove difficult, however, because teachers are often required to assume responsibilities immediately without the benefits of internship (Danielson, 2007) or other types of professional development. Therefore, implementing effective instructional supervision is essential. Clinical supervision (CS) facilitates this and the development of effective relationships between supervisor and supervisee, which can result in quality classroom instruction (Benigno, 2016). The benefits of CS towards improvement in the quality of teaching and learning is supported

by many researchers (e.g., Benigno, 2016; Gall & Acheson, 2011; Sullivan & Glanz, 2000).

A Case for Clinical Supervision Intervention

"Clinical Supervision (CS) was developed in the late 1950s by Morris Cogan, Robert Goldhammer and Robert Anderson" (Reavis, 1978, p. 580). Goldhammer (1969, as cited in Grimmett, 1981, p. 23), describes CS as "supervision up close", and proposed a five step-process, which has since undergone variations. One such variation is that of Gall and Acheson (2011, p. 6) who use the term *clinical* to suggest "a face-to-face relationship between the teacher and supervisor and focus on the teacher's actual behavior in the classroom". Among the various contemporary approaches to supervision, CS is described as "one of the most popular and comprehensive" (Kayikci et al., 2017, p. 160). It provides an alternative to traditional supervision, which has been viewed as coercive, supervisor-centred and authoritarian. In contrast, CS is democratic, teacher-centred and collaborative, as it is based on mutual dialogue (Gall & Acheson, 2011).

Key to the success of CS is its focus on looking for improvement rather than looking for deficiency, which often formed the focus of other supervisory approaches (Glickman et al., 2013; Sullivan & Glanz, 2000). Thus, the purpose of CS is to help teachers improve instruction (Gall & Acheson, 2011; Grimmett, 1981). In this process, observational data serve as the basis for making improvements. The primary elements of CS, as outlined by Gall and Acheson (2011), include a planning conference, classroom observation and a feedback conference. The process allows the supervisee to become an expert in classroom instruction through coaching. Collaboration between individuals involved in this structured organisation of the process is necessary for success, (Benigno, 2016). Such collaboration encourages reflective practice as espoused by researchers, such as Schön (1983), Fook (1996), Leithwood (1992), and Ross (1989).

Goals of CS include objective feedback on instruction, diagnosing and solving instructional problems, assisting the teacher/supervisee's skill-development in instructional strategies, evaluating, and helping teacher/supervisee to develop a positive attitude about continuous professional development (Gall & Acheson, 2011). Through CS, teaching development is increased (Holland & Adams, 2002) and improvement in teaching methods and performance has also been observed (Zepeda, 2006). Thus, CS guides teachers to improve their teaching practice, thereby directly benefitting students.

As alluded to earlier, a main challenge to CS is teachers perceiving its implementation as solely to expose teachers' weaknesses (Baharom, 2002, cited in Veloo et al., 2013). Other implementation challenges include the costs incurred in time and resources, the view that teachers and administrators are overworked, and the notion that CS is a luxury rather than a necessity. However, the benefits derived from CS can far outweigh these challenges.

A Case for Varied Teaching Strategies

There is recognition that CS aims to assist teachers in becoming more effective. Since CS makes a case for analysing teaching within a context established at the planning conference stage, teaching effectiveness can thus be determined if instruction attains the objectives outlined in a teacher's lesson plan, within which teaching strategies, along with student learning/activities, form a critical aspect. In order to facilitate the development of a student-centred learning environment (SLE) as distinguishable from a teacher-centred learning environment (TLE) (O'Neil & McMahon, 2005), student-centred teaching strategies, which featured predominantly as preferred strategies essential for teachers in 21st century classrooms (Swiderski, 2011), were introduced through CS to the participating teacher in this study.

Student-centred teaching includes teaching methods that focus on students' active learning (Krahenbuhl, 2016). These methods have evolved due to the dominance of the philosophy of constructivist pedagogy in the 21st century (Richardson, 2003); (Tobias and Duffy, 2009, as cited in Krahenbuhl, 2016). One plausible justification for this dominance is the more widespread belief that skills-development for lifelong learning is more important than memorisation of facts (Suneetha, 2014), which has been emphasised traditionally.

Collaborative learning, student-centred approaches and inquiry-based instruction feature predominantly as preferred student-centred teaching strategies. Teachers in 21st century classrooms use these strategies to teach critical skills, acknowledging the technological, economic, and social changes across the 20th and 21st centuries (Great Schools Partnership, 2016). Technology integration, in particular, which "typically include[s] the use of computing devices for instruction" (Foon et al., 2007, p. 225), supports students' development of skills, often referred to as 21st century skills (Eady & Lockyer, 2013). These skills, though around since the times of great ancient philosophers and thinkers, are identified by researchers as

critical thinking, problem-solving, collaboration, leadership, effective communication and analysis, all of which can be categorised as higher-order thinking skills (Saavedra & Opfer, 2012). Yet, for these skills to be developed through the effective use of computers by teachers, a paradigm shift from teacher-centredness to student-centredness is necessary (Bitner & Bitner, 2002; Hannafin & Savenye, 1993).

Merits of and rationale for selected strategies

The selected teacher-centred strategies are the KWL chart, think-pair-share, jigsaw and WebQuests. The KWL chart, created by Ogle in 1986 (Hamdan, 2017), is an instructional strategy based on what students know (K), what they want to learn (W) and what they have learned (L). While there are variants, KWL charts encourage brainstorming, thinking to generate questions and reflection upon what was learnt, thus allowing student engagement in a lesson. As an active learner, the student becomes the center of instruction, guided by the teacher. The KWL chart assists students by stimulating pre-knowledge, shaping inquiry, and summarising knowledge gained (Sippola, 1995). A study conducted with 55 6th graders in Turkey highlights similar benefits of KWL on students' learning (Tok, 2013). However, challenges of the KWL strategy include students' reluctance to complete charts and completing charts incorrectly. Consequently, the teacher "as guide", must elicit student participation by prompting students' responses and effectively monitoring students for accurate chart completion. This was communicated to the teacher in this study in pre-conferences, incorporated into the observation instrument and shared in feedback provided at post-conferences.

The think-pair-share (TPS) strategy, developed by Kagan (1991, as cited in Hamdan, 2017), encourages student participation, cooperation, and collaborative learning, which moves students beyond cooperation and involves discussion, negotiation and direct interaction among students to generate a product. Collaborative learning facilitates the personalisation of learning and knowledge (Bruffee, 1981) and is necessary and important for optimal learning today (Saavedra & Opfer, 2012). The process of TPS involves the student thinking on his/her own (think), discussion in pairs (pair) and sharing with other peers (share). A major challenge of the TPS strategy is insufficient time for students to think and share (Ledlow, 2001). This can be overcome through discussion during collaboration with the supervisee, and preventative methods including providing students with time limits, appointing a time-keeper for activities and incorporating time-checks during TPS activities into students' task sheets and the teacher's

lesson plans. Monitoring through observation will provide feedback to manage or mitigate against occurrences.

The jigsaw approach, developed in the 1970s, is still used in classrooms today. It encourages collaboration and cooperation among students, addresses low student enthusiasm, improves social skills, and increases students' capacity to work productively together (Colosi & Zales, 1998). The formation of small "jigsaw groups", provision of materials by the teacher, creation of "experts" in "expert groups" and regrouping for clarification and discussion are elements of this approach. This process encourages students to take responsibility for their own learning, is student-centred, and actively involves the learner.

Jigsaw challenges include greater preparation by the teacher, impact of student absences on grouping, lack of adequate guidance for weaker students, frustration of students completing tasks too early, and aggressive or impatient students (Colosi & Zales, 1998). Providing guidance to the supervisee in lesson planning; dividing procedures into tasks and creating task sheets for students; providing advice to create balanced groups comprising students with varying skills, strengths, and abilities; and conducting reviews of tasks for level of difficulty to ensure equal engagement of all groups are solutions, while the effective classroom management of the participating teacher can assist with aggressive or impatient students.

While Dodge (1998) pioneered an inquiry-based activity requiring learners to interact with resources on the internet, both he and March (2004) coined the term WebQuest (Perkins & McKnight, 2005). Lamb and Teclehaimanot (2004, as cited by Halat, 2008) highlight characteristics of WebQuests, the fourth strategy introduced, as being student-centred, project-based, constructivist, promoting active learning, critical and creative thinking, situated learning and co-operative learning. WebQuests contain six sections and "are quickly growing as a powerful pedagogical tool" (Levin-Goldberg, 2014, p. 73) that facilitate technology integration for 21st century education (Saavedra & Opfer, 2012). Critical-thinking, problem-solving and teamwork skills are developed (Perkins & McKnight, 2005), while increasing student motivation (Kobylinski, 2014). Vidoni and Maddux (2002, as cited in Perkins & McKnight, 2005) highlight that students' intellectual and academic ability rather than web-searching skills are developed. As advocated by Perkins and McKnight (2005), WebQuests help students remain focused by providing information related to the current task.

Challenges have, however, been identifed. They include insufficient resources, preparation time, technological issues (Perkins & McKnight, 2005) and potential student distraction by other websites (Halat, 2008). These can be addressed through the teacher's effective monitoring and the CS supervisor's high quality observation and feedback. Time issues to create WebQuests may be addressed by encouraging the teacher to create a template, website or WebQuest that can span the period of CS sessions requiring it.

The literature reviewed here has established the potential of CS in student-centred teaching strategies to improve classroom instruction which can result in improved learning experiences for 21st century learners. The research design follows.

Action Research

Action Research (AR), the methodology used for this study, was founded by Lewin in the 1940s (Clem, 2006). AR has developed and evolved to include the "teacher-researcher" concept (Stenhouse, 1975, 1981, cited in Fagundes, 2016), which is the role adopted by this study's first author. Many definitions of AR, ranging from classroom research (Hopkins, 1993; Macintyre, 2000) to participants' systematic and careful examination of their education practice (Ferrance, 2000) and, recently, the view of AR as "a personal attempt at understanding while engaged in a process of improvement and reform" (Hopkins, 2014, p. 58) exist. Hopkins' (1993) definition of AR as "an act undertaken by teachers to enhance their own or a colleague's teaching" is most applicable to this study, since AR was used to assist Ms. Goodwill, the first author's supervisee, improve classroom instruction through a CS intervention using student-centred strategies. The four phases: plan, act, observe and reflect, proposed as the AR Spiral by Kemmis and McTaggart (1998), were employed to answer research questions outlined earlier.

Borg, since 1965, recognised the value of AR in involving teachers in problem-solving, in-service training and teacher development (Borg, 1987). Watts (1985) supports the idea of working with colleagues to assist in professional development, a founding principle of AR. As an integral part of a teacher's life in developing effectiveness and professionalism (Parsons & Brown, 2002), AR is seen as collaborative and systematic, allowing participants to face challenges, beliefs, and perceptions about themselves. While this may deter persons from pursuing AR, arguments from Mockler and Groundwater-Smith (2015) about stimulating reflection to compound rethinking and reorganising practice as well as those from

James and Augustin (2017) about empowering persons in research, such as teachers (who are normally marginalised), support the pursuit of AR, thereby addressing this limitation.

As a form of inquiry, AR impacts positively on educational outcomes, thus initiating change (James & Augustin, 2017). AR facilitates teacher-learning, through teachers' engagement in research which allows them to take actions to inform their practice (Edwards-Groves & Kemmis, 2016) and thus works well with CS. While some researchers have expressed skepticism of the teacher's role as researcher, many others have provided persuasive counterarguments (Hitchcock and Hughes, 1995; Johnston, 1994, cited in James & Augustin, 2017; Mockler and Groundwater-Smith, 2015). Cain (2011) highlights the potential of AR to create different types of knowledge to teachers, including teaching strategies and resources that teachers can apply to new contexts. While the sustainability of AR is questioned (Hadfield, 2004), the role of AR in improving instructional practices will encourage teachers to continue using the method and share their positive experiences with colleagues, thereby promoting continuation and sustainability.

Research Design

A CS intervention was conducted with Ms. Goodwill, a teacher at CHS, who implemented the strategies that were introduced to her, with one of her classes. Data were collected using non-numeric methods prior to, during, and immediately after the intervention. An implementation plan was prepared to assist with executing the AR spiral and monitoring the implementation of the intervention. The implementation plan was divided into phases and outlines tasks, start date, duration, material and human resources, cost, and success criteria across 12 CS sessions. This is illustrated in Table 1.

Table 1. The Implementation Plan

Implementation Plan							
Phase	**Task**	**Start Date**	**Duration**	**Material Resources**	**Human Resources**	**Cost**	**Success Criteria**
Pre-Intervention/Pre-Planning	Discussions/Way Forward: • Initial discussions with Supervisee, HoD • Collaboration on the way forward • Prepare observation & interview schedule • Generic observation of Supervisee • Record of the above tasks • Pre-planning sessions involving document preparation • Prepare CS Schedule	Sept. 2018	3 mths	• Paper • Laptop • Printer • Notepad • Voice recorder	• Supervisee • Supervisor • HoD	None	• Understanding of expectations of CS process • Mutual agreement on Supervisee's pedagogical need • Completed observation & interview schedule • Completed observation instrument • Anecdotal notes & voice records • Agreement on intervention strategies based on pedagogical needs • Completed CS pre-planning schedule • Completed teaching documents: scheme of work, draft lesson plans (Supervisee) • Completed CS Schedule
	Permission/Notice: • Letter to Principal notifying period of study for AR • Copy of letter to HoD & Supervisee • Letter to parents seeking consent	07 Jan. 2019	1 day	• Paper • Laptop • Printer	• Principal • HoD • Supervisee • Parents	None	• Letters approved and delivered • Responses to letters obtained
	Document Preparation: • Develop instruments to collect data and other related documents: • Pre-Intervention Interview Sheet • Pre-Intervention Focus Group Interview (FGI) Sheet • Students' Journal - template • CS observation instruments • CS session plans Interviews:	Dec. 2018	1 mth	• Interview sheet • Students' Journal with 3 prompts • Checklist • Paper • Printer • Laptop	• Supervisor • Supervisee • Students	None	• Instruments and documents approved by lecturer • 1st interview conducted

	• Conduct semi-structured interview 1						
	Examine & approve lesson plans: • Examination of draft lesson plans for CS sessions 1&2 (KWL chart) • Establish focus groups • Conduct Focus Group Interview (FGI) 1	07 Jan. 2019 09 Jan. 2019 10 Jan. 2019	1 wk 1 day 1 day	• Lesson plan template • KWL resources • Paper • Printer • Laptop	• Supervisee • Supervisor • Students	None	• Completed lesson plans (2) • 2nd interview conducted
Intervention	CS Intervention: • Conduct CS 1 – KWL strategy • Conduct CS 2 – KWL strategy • Journal entries – students, supervisor, supervisee • Journal Review #1 • Post-conference – feedback on strategy • Journal Review #2	14 Jan. 2019 16 Jan. 2019 31 Jan. 2019 21 Feb. 2019	1 day 1 day	• CS schedule • Lesson plan • CS session plan • Observation instrument • KWL charts • Paper • Printer • Laptop • Journals	• Supervisee • Supervisor • Students	None	• Completed CS sessions (2) • Completed journal entries (2) • Completed KWL charts (2) • Anecdotal notes – written record of process and feedback.

Post Intervention	Interviews & Feedback: • Conduct semi-structured interview 1 • Conduct FGI 2 • Journal review #3	12 Mar. 2019 21 Mar. 2019 13 Mar. 2019	1 week	• Interview Questions • Journals	• Supervisee • Supervisor • Students	$500 – Tokens for students and supervisee for participation	• Improved use of strategy • Completed 3rd & 4th interview • Completed transcripts • Completed journals • Anecdotal notes
	• Collate and analyse data • Submission of action research	19 Mar. 2019	1 month	• Journals • Lesson Plans • CS session plans • Interview transcripts • Observation instruments • Anecdotal notes	• Supervisor	None	• Completed Action Research

Note. Tasks identified at the Intervention Stage for strategy 1 (KWL Chart) were the same for other strategies (TPS, Jigsaw, WebQuests) used on subsequent dates.

The research process encompassed three main stages—pre-intervention, intervention and post-intervention--spanning eight months from September 2018 to May 2019 (see Figure 1). Activities included selecting a supervisee, obtaining agreement and buy-in from the supervisee, initial pre-planning, preparation of schedules, finalising the direction of the clinical supervision interventions, suggesting and researching strategies that would be of optimal benefit to the supervisee, performing the clinical supervision observations and engaging in pre-conferencing and post-conferencing. A total of 16 sessions, which included the 12 CS sessions, were scheduled with the Supervisee over the duration of the intervention. Data gathered at each session went through extensive analysis. One month was dedicated to further analysis of patterns in the data.

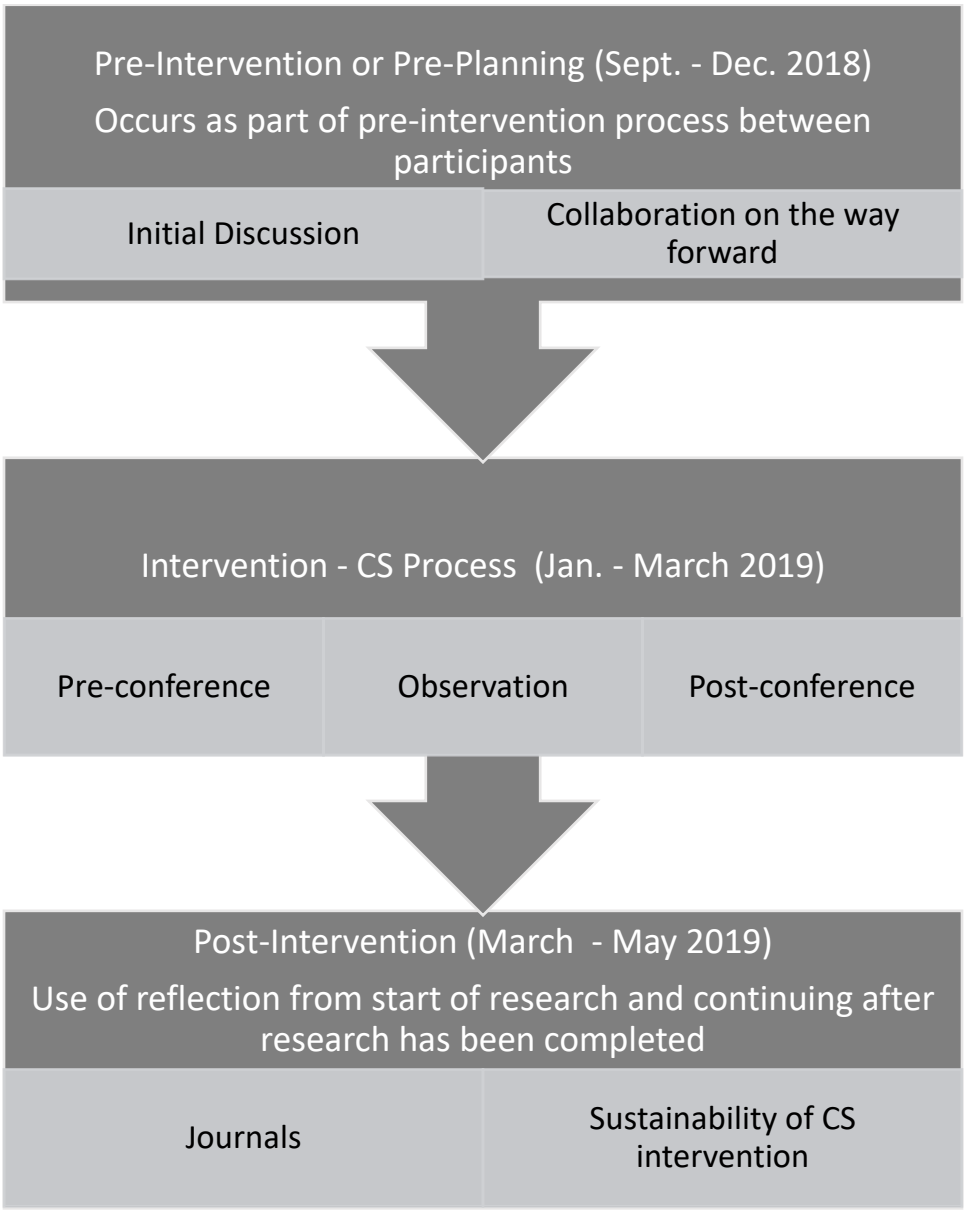

Figure 1. The research process

Participants

Purposive sampling was used to select participants. This non-probability sample excluded members of the wider population of CHS, a pseudonym for the school in which the study was conducted in Trinidad and Tobago. Participants who contributed most meaningfully to the study were deliberately selected through a collaborative process. Ms. Goodwill's 27 Form 3 (grade 8) students were selected because of her involvement as supervisee in the intervention. Ms. Goodwill is a 29-year-old Spanish teacher with five years teaching experience. The students were between the ages 14 and17. They comprised 15 males and 12 females who came from various socio-economic and ethnic backgrounds. The first author, in her capacity as CS supervisor (participant-researcher), is an Acting Head of Department (HoD) at CHS for Ms. Goodwill and has 20 years teaching experience.

Data Collection Methods

Non-numeric data, based on observations and the subjective understanding of participants, were collected using multiple methods and sources, thus ensuring triangulation. Triangulation increased the credibility and reliability of the evidence by facilitating a cross-checking of data from multiple sources (O'Donoghue & Punch, 2003) and established research integrity (Elliot, 1996). Methods, instruments, and participants involved for each research question (RQ) are illustrated in Table 2. Observation and interview schedules were prepared and utilised.

Table 2. Method and Source Triangulation

Data Collection Methods and Instruments			
Research Questions	**Data Collection Methods**	**Data Collection Instruments**	**Participants**
1. What teaching strategies are used by Miss Goodwill in her Form 3 Spanish class, pre-intervention?	- Individual, semi-structured interviews - Focus group interviews - Observation	- Interview protocols - Interview protocols - Observation checklist	- Supervisee - Students - Supervisee - Students
2. To what extent can a clinical supervision intervention in the use of varied teaching strategies: KWL, think-pair-share, jigsaw approach and WebQuest assist in her in using more student-centred approaches and reduce over-reliance on teacher-centred strategies.	- Semi-structured Observation - Document Review	- Observation instruments - Session plans - Lesson plans - Journals	- Supervisee - Supervisee - Supervisee - Supervisee
3. To what extent has students' learning been influenced by Miss Goodwill's use of the named student-centred strategies?	- Individual, semi-structured interviews - Focus group interviews - Document Review	- Interview protocols - Interview protocols - Journals	- Supervisee - Students - Supervisee - Students

Data were collected pre- and post-intervention using interviews. Two interviews were conducted with Ms. Goodwill: (1) a pre-intervention interview which was undertaken to determine her pre-intervention teaching strategies, experience with varied teaching-strategies, and perceptions about the CS process and (2) a post-intervention interview was used to ascertain her experience with the CS intervention. Two focus groups (FGIs) were conducted with students: a pre-intervention FGI which was undertaken to determine students' reactions and perceptions on Ms. Goodwill's pre-intervention teaching strategies and a post-intervention FGI was conducted to determine the impact of Ms. Goodwill's use of student-centred strategies on students' learning. During CS sessions, observation instruments created by the researcher were used to capture data regarding student-centred teaching strategies implemented by Ms. Goodwill. These observations were conducted over nine weeks. Document review of Ms. Goodwill's lesson plans and journals kept by Ms. Goodwill and the supervisor was also instrumental in providing data.

Data Analysis

Non-numerical data, gathered through methods identified, were examined, analysed and organised based on the RQs outlined. The data were assigned codes based on the literature and allowed for emerging codes to be condensed, summarised, put into themes, and recombined (Saldaña, 2013). Comparisons made among codes further reduced the volume of data. Application software (Microsoft Word) was used to color-code the data and create a data matrix, which was invaluable in organising and recognising themes easily, making the data more meaningful and easier to analyse. Data were then presented in the form of tables, graphs, quotes, or narrative as evidence in order to support the major findings.

Presentation and Discussion of Findings

The research findings are presented based on the RQs identified.

RQ1: What teaching strategies are used by Ms. Goodwill in her Form 3 Spanish class, pre-intervention?

The themes, 'Teacher-centredness: Creating a traditional learning environment' and 'Poorly structured student-centred attempts' answer RQ 1,

showing that prior to the CS intervention, Ms. Goodwill did indeed subscribe to a predominantly teacher-centred approach to teaching.

Teacher-centredness: Creating a traditional learning environment

Using the two broad classifications of teaching strategies, and based on the data gathered from the semi-structured interviews, FGIs and observations, Ms. Goodwill's use of teacher-centred or traditional teaching strategies pre-intervention was evident. Her methods were not varied and did not include constructivist or student-centred strategies. During the pre-intervention interview, Ms. Goodwill indicated "…I [am] more into teacher-centred strategies. Like old-school", "what I use is only chalk and talk, I just explain and keep explaining while the students just… [remain] sitting and listening." Students' description of lessons corroborated Ms. Goodwill's account. Words such as "Miss would do the explaining" (Mark), "mainly textbook" (John) and "call notes" (Tina) are descriptions generally associated with traditional learning environments (TLEs) (O'Neil & McMahon, 2005, cited in Smit & de Brabander, 2014).

The characteristics of Ms. Goodwill's teacher-centred teaching strategies were consistent with the roles for teacher and student associated with this teaching approach identified in the literature (Smit & de Brabander, 2014). The teacher assumed the role of 'font of knowledge' while students were receptacles to receive the information disseminated by her. Thus, passive students listened while the teacher provided all the content and explanations. Students used the words "boring" and "bored" to describe Ms. Goodwill's class before the CS intervention. Data gathered from the semi-structured interviews, FGIs and observation checklist also revealed that student involvement in the lessons was restricted. They responded to questions posed by Ms. Goodwill, asked few questions, copied notes from the board, read handouts and the textbook and completed exercises (Figure 2).

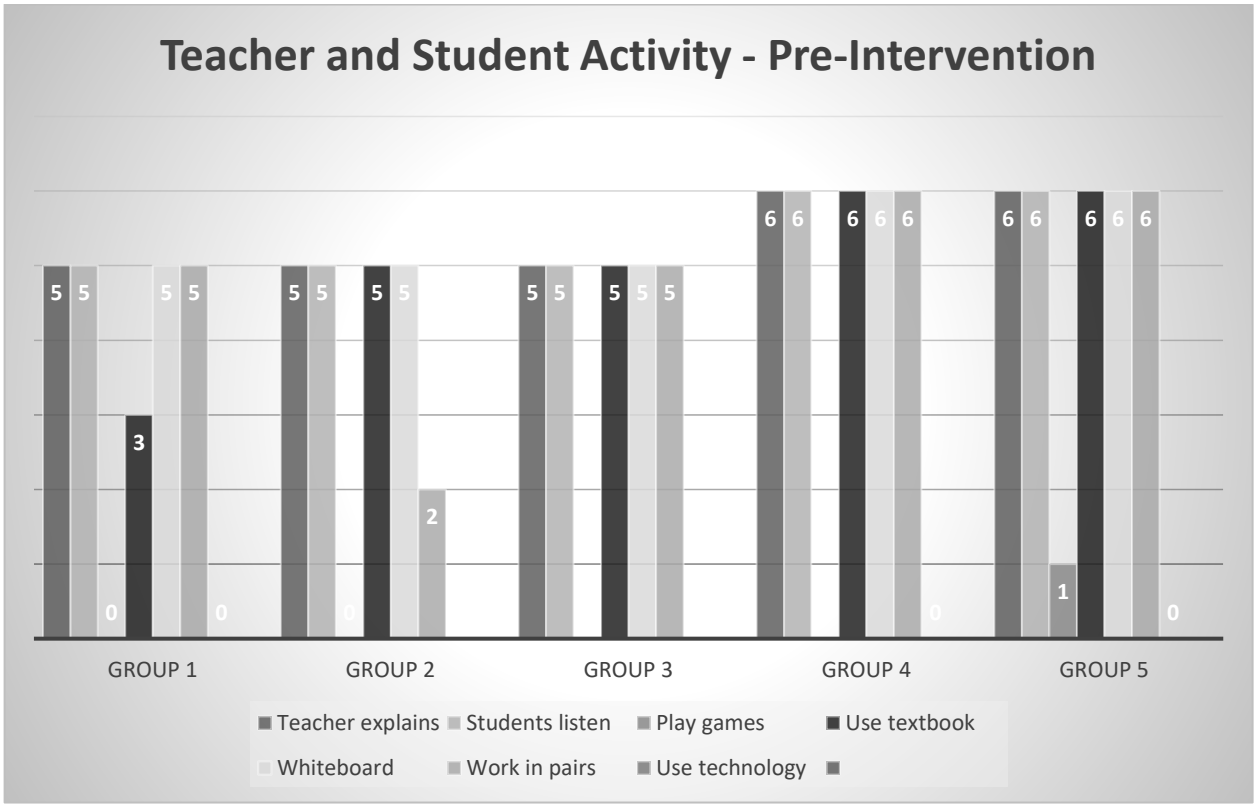

Figure 2. Teacher and Student Activity Pre-Intervention

Poorly structured student-centred attempts

The data collected also showed that the teacher incorporated collaborative work by pairing students to complete given exercises, peer-teach or engage in dialogue. Students revealed "Miss puts us in groups of two for dialogue, to assist one another… [to] complete assignments" (Susan). "We assist each other sometimes when she put[s] us in pairs" (Phillip). This can be interpreted as the teacher's attempt to vary lessons, however, the research showed that these attempts were not well-structured into the lesson in relation to any named teaching strategy. The teacher stated, "[P]previously… I would just put them in a pair… but no… there's an actual process… [I]t was [meant to be] more structured".

The findings with regard to RQ1 indicated that Ms. Goodwill adhered solely to a teacher-centred approach to teaching. The roles, behaviors and activities of participants were consistent with this strategy. Ms. Goodwill's classroom pre-intervention can be described as a teacher-centred learning environment (TLE).

RQ2: To what extent can a CS intervention in the use of varied teaching strategies: KWL, think-pair-share, jigsaw approach and WebQuest assist Ms. Goodwill in using more student-centred approaches and reduce over-reliance on teacher-centred strategies?

Two themes presented here in answer to RQ2 evidence the success of the named CS intervention on reducing Ms. Goodwill's over-reliance on teacher-centred strategies. They are: (a) Shift towards student-centred teaching and (b) Reflective practitioner development. These, however, were only possible through overcoming CS challenges, which is also discussed.

Shift towards student-centred teaching

Table 3 illustrates that Ms. Goodwill used four student-centred strategies during the intervention period. The strategies facilitated active, co-operative, collaborative, and inquiry-based learning. When questioned about her use of the named strategies pre-intervention, Ms. Goodwill replied, "Never! Ever! Didn't even know they existed!" Therefore, the intervention provided guidance, knowledge, content, and resources that assisted the teacher with incorporating these strategies into her practice, thus reducing an over-reliance on teacher-centred strategies. Since the strategies were new, Ms. Goodwill, needed copious support to facilitate her movement from a teacher-centred pre-intervention state to a student-centred post-intervention state. This support, akin to cognitive coaching (Gall & Acheson, 2010), which occurred throughout the CS intervention stages, represented scaffolding on the part of the supervisor who stated, "[U]pon reflection, I realize that I have been practicing instructional scaffolding… in order to enhance her learning and aid in the mastery of her pedagogical skills." Ms. Goodwill acknowledged such support by remarking, "Ms. M... [the supervisor] has consistently been supporting my process of development." Additional resources were provided by the supervisor for strategies as necessary. The CS intervention therefore provided support to reduce her over-reliance on teacher-centred strategies.

Table 3. Use of Student-Centred Strategies During CS Intervention

Strategy		Week(s)	Total times strategy used

KWL Chart		01	02
TPS		02 03	03
Jigsaw		04 05 06	04
WebQuest		08 09	03
Total		09	12

Through the level of support provided by the intervention, Ms. Goodwill learnt to incorporate student-centred strategies into her practice. She reflected that after the intervention she felt "more equipped in various strategies", "very accomplished", "I could teach one topic in many different ways…", "I want to do more of these strategies… research more strategies… my methods have become more student-centred …", "now I look at things differently". Her journal read, "My teaching strategies have varied so much during the past term that I'm unsure how to revert, not that I want to anyway". She indicated a desire to continue using the strategies stating, "I want all my classes to be like the classes that I have enjoyed in CS… to use new teaching strategies". These statements demonstrated her comfort level with the strategies and self-confidence and were interpreted as new thinking about teaching. This represented a shift in Ms. Goodwill's state from ignorance of student-centred strategies to proficient use through the CS intervention.

Ms. Goodwill's "shift" may be attributed to her overall experience and general performance with the strategies over the CS period. Table 4 illustrates her performance with each strategy.

Table 4. Teacher's Performance by Criteria Per Strategy and Session Objectives

Strategy	Session Objective By the end of the session, the teacher will be able to:	Performance Criteria	Needs Improvement /Below Average	Average	Good	Outstanding
KWL CS01	Encourage student participation	5 – The teacher effectively used the strategy			✓	
KWL CS02	Encourage student participation	5 – The teacher effectively used the strategy				✓
TPS CS03	Promote student collaboration, engagement and participation	4 – Students were allowed adequate time to share with a partner 10 – The teacher's prompts allowed students to be more actively engaged 12 – The teacher effectively used the strategy		✓	✓ ✓	
TPS CS04	Promote student collaboration, engagement and participation	4 – Students were allowed adequate time to share with a partner 10 – The teacher's prompts allowed students to be more actively engaged 12 – The teacher effectively used the strategy		✓	✓ ✓	
TPS CS05	Promote student collaboration, engagement and participation	4 – Students were allowed adequate time to share with a partner 10 – The teacher's prompts allowed students to be more actively engaged 12 – The teacher effectively used the strategy			✓ ✓ ✓	

Jigsaw CS06	Promote student co-operation, engagement, participation and independent learning	3 – The teacher gave students adequate time to read and/or view material provided by the teacher 4 – The teacher gave students adequate time to discuss and complete tasks in expert groups 5 – The teacher gave students adequate time to share what they learnt with their home group		✓	✓ ✓	
Jigsaw CS07	Promote student co-operation, engagement, participation and independent learning	3 – The teacher gave students adequate time to read and/or view material provided by the teacher 4 – The teacher gave students adequate time to discuss and complete tasks in expert groups 5 – The teacher gave students adequate time to share what they learnt with their home group	✓	✓	✓	
Jigsaw CS08	Promote student co-operation, engagement, participation and independent learning	3 – The teacher gave students adequate time to read and/or view material provided by the teacher 4 – The teacher gave students adequate time to discuss and complete tasks in expert groups 5 – The teacher gave students adequate time to share what they learnt with their home group			✓ ✓ ✓	
Jigsaw CS09	Promote student co-operation, engagement, participation and independent learning	3 – The teacher gave students adequate time to read and/or view material provided by the teacher 4 – The teacher gave students adequate time to discuss and complete tasks in expert groups 5 – The teacher gave students adequate time to share what they learnt with their home group		✓	✓ ✓	
WebQuest CS10	Promote student co-operation, engagement, participation and inquiry-based learning	5 – Teacher allowed adequate time to complete each component of the WebQuest as outlined 8 – The teacher's prompts allowed students to be more actively engaged			✓ ✓	

WebQuest CS11	Promote student co-operation, engagement, participation and inquiry-based learning	5 – Teacher allowed adequate time to complete each component of the WebQuest as outlined 8 – The teacher's prompts allowed students to be more actively engaged			✓ ✓	
WebQuest CS12	Promote student co-operation, engagement, participation and inquiry-based learning	5 – Teacher allowed adequate time to complete each component of the WebQuest as outlined 8 – The teacher's prompts allowed students to be more actively engaged			✓ ✓	
Overall Rating		29	1	5	22	1

Data gathered from the observation instruments and anecdotal notes indicated that the session objectives were met for each strategy across 29 criteria with improvement in each strategy over CS sessions, resulting in steady improvement and a general "good" rating (22 out of 29 criteria) for all strategies. Performance with the KWL strategy moved from "good" to "outstanding". The only adverse performance recorded was for the Jigsaw strategy for CS 07, criteria 5 (see Table 4), which represented inadequate time given to students to encourage participation, but this improved by CS 08. This issue was addressed in the post-conference as Ms. Goodwill was reminded of measures taken to adjust lesson plans to include time allocations.

Table 5 presents Ms. Goodwill's positive experiences with the named strategies, which supports the assumption that they encouraged her to continue using the strategies, thereby reducing her over-reliance on teacher-centred strategies. Although, the WebQuest was the most challenging strategy, she remained positive as shown in Table 5.

Table 5. Summary of Teacher's Comments/Experience with Named Strategies

Strategy	Teacher's Comments
KWL	- That experience was eye-opening. - It was eye-opening because I didn't know that you could give secondary school children a KWL chart!
TPS	- I'm beginning to like the TPS strategy. - Very different - Effective
Jigsaw	- Most complex… and also most fun - The students like the strategy - I myself as a teacher enjoyed it - This session was interesting. Jigsaw strategy! - The strategy was done well as I am comfortable with it
WebQuest	- Challenging - I end up with a product, a real product

Her positive experiences with clinically supervised sessions which incorporated the–student-centred strategies also encouraged a notable increase in Ms. Goodwill's willingness to integrate technology into lessons following session 02 (Mueller et al., 2008). Technology was integrated into the majority of lessons in various ways, thus exploiting technology as a means of supporting learning as well as developing skills needed for the 21st century (Eady & Lockyer, 2013; Saavedra & Opfer, 2012) (Table 6). This was a sharp contrast to the pre-intervention period where no technology was used by the teacher, indicating a paradigm shift as purported by researchers (Bitner & Bitner, 2002; Hannafin & Savenye, 1993). Improvement was noted, as Ms. Goodwill moved from no use to proficient use of technology by the end of the intervention. She successfully created a WebQuest, which consisted of a number of webpages, thus producing an interactive website for teaching. This depicted her determination to reduce over-reliance on teacher-centred strategies.

Table 6. Technology integration during CS intervention

Lesson	Strategy	Technology Integration
01	KWL	None
02	KWL	None
03	TPS	Set induction; Multimedia Projector (MMP), laptop
04	TPS	Set induction; MMP, laptop
05	TPS	Set induction; Video; MMP, Laptop Teaching points; Video; Softcopy output; MMP, Laptop Final Evaluation; Online game
06	Jigsaw	Set induction; Video; MMP, Laptop Teaching points; Video; MMP, Laptop, Online dictionary and translator; Currency website
07	Jigsaw	Teaching points; Video; MMP, Laptop
08	Jigsaw	Teaching points; Video; MMP, Laptop, Online dictionary and translator; Website
09	Jigsaw	Set induction; Video; MMP, Laptop Teaching points; Video; MMP, Laptop, Online dictionary and translator; Website
10	WebQuest	Teacher built website to host WebQuest that she created Entire lesson; all elements;
11	WebQuest	Teacher built website to host WebQuest that she created Entire lesson; all elements;
12	WebQuest	Teacher built website to host WebQuest that she created

		Entire lesson; all elements;

Reflective practitioner development

Apart from supporting a shift in Ms. Goodwill's attitude and change in her role as teacher, the following excerpts demonstrate her development into a reflective practitioner – a fundamental benefit of CS (Acheson & Gall, 2011). Ms. Goodwill stated "I was forced to look at how I did as a teacher. I never did that before". She added:

> *The students think, pair (discuss) and then share with the class. This class felt like a turning point because I no longer feel the need to control, hover or dictate. I feel the need to facilitate the learning process rather than give notes and exercise and call it a day… I was able to point out my shortcomings after reflecting on my class in post-conferences.*

This "conscious criticism" (Gall & Acheson, 2010) allowed Ms. Goodwill to inform her practice, thus improving her theory-in-use (Schön, 1983), which resulted in teacher effectiveness in classroom instruction. It provided further evidence of the intervention's success at modifying Ms. Goodwill's teaching. This is captured from her reflection on practice:

> *The twelve sessions held meant that I improved [in the planning] of those twelve lesson plans and elements such as the set induction, evaluation and [sectional] review were almost perfected as I was given the opportunity to improve with each session and noticed the difference it made to the students' progress. My supervisor made the process comfortable and easy to understand. The experience changed my perception on the one-way teacher-centred method that I was applying for the past five years.*

Yet these successes were also partly realised by overcoming challenges related to the implementation of clinical supervision.

Overcoming clinical supervision challenges

The challenges encountered during the implementation of the clinical supervision intervention, support findings from the literature, and are worth mentioning. These challenges had the potential to upset the successful implementation and positive outcomes of the intervention had it not been for specific measures put in place. Finding time for initial pre-planning and CS sessions (Gall & Acheson, 2010) was solved when participants made extra efforts to prioritise the CS intervention, used personal time for planning and communicated via technology rather than

relying on face-to-face meetings. Additionally, time management, inadequate planning and organisational skills, difficulties in working out logistics, scheduling and balancing workload with the CS intervention posed challenges. Hence, the CS schedule was periodically revisited, and the supervisor and supervisee were committed to searching for and trying different management and organisational procedures in order to find ones that worked. Time management was the biggest challenge. Time management issues threatened planning and lesson delivery, but these were overcome by the support of the supervisor. As related by Ms. Goodwill, "My supervisor… made it really manageable… full support from [her]" and "resources for the strategies were always given to me, I didn't have to search for them." Analysis of the observation instruments indicated improvement in time management for lesson delivery due to lesson plan amendments, and indicated time allocations per lesson section.

RQ3: To what extent has students' learning been influenced by Ms. Goodwill's use of the named student-centred strategies?

The research revealed two themes in answer to the above RQ: (a) Students' increased interest and participation in learning and (b) Improved perception of the subject.

Students' increased interest and participation in learning

Students' learning was positively influenced by Ms. Goodwill's use of the student-centred strategies. This indicated the success of the CS intervention, and is found to be consistent with existing literature, such as Gall and Acheson (2010). Differences were noted and recognised by students between strategies used pre- and during the intervention as well as differences from lessons taught in their other classes. For instance, Tina shared, "[N]one of the other teachers ever use these things, these strategies." Susan added, "The other classes [are] boring." This indicated students' increased interest in learning because of Ms. Goodwill's use of student-centred strategies.

Students' learning and increased interest may have been piqued by the variety of classroom activities. Responses revealed, "Before, [there weren't] so [many] activities" (Phillip); "We get to learn more than before… [S]tudents didn't have to move about the class… [We] never had to find the information on our own" (Susan); "The class [is] more enjoyable now because we [are] getting to go on the computer… The strategies [are] more innovative" (John). This finding supported the association between activities and meaningful learning (Swiderski, 2011).

The jigsaw strategy demonstrated the benefits of group work. Students expressed their liking for being allowed to communicate with classmates. John shared, "[I] felt more comfortable speaking to a classmate… It help[s] me to understand… when we work together." Mary indicated, "I feel like we became more responsible." This depicted the development of critical skills namely collaboration, leadership, and communication (Saavedra & Opfer, 2012) and personalisation of learning through collaboration (Bruffee, 1981). Ms. Goodwill recognised that group work also influenced students' learning. She stated, "Some of them remember [that] they found it in their groups, so that never left them, they had to locate it, they had to remember it, they had to understand it, they had to share it."

Ms. Goodwill also noticed the changes in students' interest and participation in learning. Table 7 summarises journal entries which revealed students' on-task behavior for each student-centred strategy. The positive actions were interpreted by her as students' increased motivation to learn. This finding is supported by the literature (Colosi & Zales, 1998; Kobylinski, 2014; Sippola, 1995).

Table 7. Students' Interest and Participation in Learning

CS Session & Journal Entry No.	Teaching Strategy	Quotation from Journal Entry
CS 01 – JE 1	KWL Chart	"One student who didn't speak in my class before, actually spoke more than once in class today. The students were very involved. Proud moment!"
CS 02 – JE 2	KWL Chart	"More students were involved. Even a student who never wrote in my class before was upfront and voicing her responses throughout the class. I realised the students are responding positively and it motivates me."
CS 07 – JE 07	Jigsaw	"Students were explaining the strategy to me." "Students were keeping the roles of time keeper and on task person very effectively."
CS 09 – JE 09	Jigsaw	"The students like the strategy and even kept their initial home group names of different countries"
CS 11 – JE 11	WebQuest	"The students came into class excited for the WebQuest." "Those who kept on track finished the task on time."

Students' descriptions of their experiences with the intervention strategies are also testament to the positive experiences which first piqued their interest in learning. Table 8 shows students' journal entry descriptions for the five student groups formed by the supervisor. It revealed that students used a range of positive synonyms to describe their learning experience with the new strategies. The descriptor, 'easy to understand' was seldom used by students, indicating that, while enjoyable, the newly encountered strategies took time and practice to understand. It also indicated that higher-order thinking was engaged in in the use of the strategies.

Table 8. Students' Descriptions of Their Experiences of the Named Strategies

Strategy	CS Session	No. of Journal Entries examined	Commonly used descriptors across Group Journal Entries					
			Good/ Great	Fun/ Enjoyable	Interesting/ Entertaining	Educational	Amazing/ Exciting	Easy to understand
KWL Chart	01	05	Grp 3	Grps 5, 3, 2	Grps 4, 2	Grp 1		
	02	05	Grp 3	Grps 1, 3, 5	Grps 4, 1, 2 Grp 2		Grp 4	
TPS	03	05	Grp 3	Grps 1, 2	Grps 4, 1, 5, 2	Grp 5	Grp 3	Grp 4
	04	05		Grps 5, 3, 1	Grps 4, 2		Grps 5, 3, 1	Grps 4, 2
	05	05		Grps 1, 5, 3, 4, 2		Grp 5	Grps 3, 5	
Jigsaw	06	05	Grp 3	Grps 1, 4	Grps 5, 2	Grps 5, 1, 4	Grp 3	
	07	05		Grps 5, 4, 1, 3, 2	Grp 5	Grps 4, 1, 2	Grp 5	
	08	05		Grps 4, 3, 1, 2, 5		Grps 1, 2	Grp 4	
	09	05	Grps 5, 3	Grps 5, 1, 2, 3, 4			Grps 1, 3, 2	
WebQuest	10	05	Grps 2, 5, 3, 1, 4		Grp 2			
	11	05	Grp 3	Grps 3, 2, 1	Grp 4	Grp 1	Grps 3, 5	
	12	05	Grp 4	Grps 2, 1, 3	Grps 4, 1	Grps 2, 5, 3		

Improved perception of the subject

As students' interest and participation in learning increased, their perceptions of Spanish also changed through the CS intervention. There was interest and desire to pursue Spanish in Form 4. This represented an anomaly at CHS as students often selected subject groupings without Spanish, resulting in extremely small Spanish classes. Students stated, "Now I [often] wish [that] we had Spanish whole day" (Mary). "I [am] actually thinking of doing Spanish now [as a school leaving subject]. Before, a single [class period] was…. *long*…; now, once class start[s] [it's] like... Yes!" (John, student emphasis).

Students' improved perceptions of the subject facilitated their learning of it, which Ms. Goodwill attributed to the CS intervention and the student-centred approaches used. She noted improvement in their Spanish vocabulary and grammar, affirming that "At least something stuck more than when I used my traditional methods… I do see a little improvement in areas that I would not [normally]… They will even remember the pluralisation now…" The benefits of student-centred learning were evident. She said, "[T]hey had to find it out themselves… they had to do it themselves and it stuck…; before, it was given to them." The literature supported these benefits, associating them with constructivist classrooms (Suneetha, 2014).

The CS intervention thus provided a means for learning to occur by allowing students opportunities that made information meaningful and relevant, which enabled them to store new information in long-term memory (Gall & Acheson, 2010). John said, "It [Spanish] will help you in situations in the future, like when you [are] travelling." Mary explained, "I was travelling with some Spanish [persons]… [and] I was able to understand exactly what they [were] saying." The CS intervention also provided students with many opportunities to create and participate in dialogues. These positive learning experiences translated into over 50% of students getting ≤ 70% of their assessments correct over the CS period and showed students' consistent performance and good understanding of content for the topics taught using the strategies. Thus, the intervention provided the teacher with a means of performing her main role of promoting student learning (Gall & Acheson, 2010).

The findings regarding RQ3 exhibited that students' learning was positively influenced by the use of the named student-centred strategies. Taken together with the findings of RQ2, one can conclude that Ms. Goodwill's class was transformed into a student-centred learning environment (SLE) through the CS intervention.

Conclusion

This action research was undertaken to implement and examine the effectiveness of a CS intervention using student-centred strategies. Findings revealed that prior to the intervention, Ms. Goodwill's classroom was a teacher-centred learning environment. However, this changed with the introduction of student-centred teaching strategies, namely KWL, TPS, Jigsaw and WebQuests, through a clinical supervision intervention. Through this intervention a shift towards student-centred teaching and reflective practitioner development was observed in Ms. Goodwill, though inherent challenges, such as finding time for collaborative pre-planning and balancing individual workloads with implementing the CS intervention, had to be overcome. Also observed were an increase in students' interest and participation in learning and their improved perception of the subject taught. These themes demonstrate the positive outcomes of the CS intervention on the teaching/learning environment, and highlighted its benefits to both the teacher and students.

Through the intervention, a collaborative and professional relationship was created between the supervisor and Ms. Goodwill, and opportunities for reflection were provided to the teacher. This resulted in steady improvement in the teacher's pedagogical skills over the intervention period, where the provision of support and guidance to Ms. Goodwill by a competent supervisor equipped her with the knowledge and skills to successfully use student-centred teaching strategies. The teacher's effective use of the strategies was fundamental in positively influencing students' learning, active participation, and acquisition of those earlier mentioned critical skills, such as collaboration, co-operation, and inquiry-based learning. Ms. Goodwill's class was transformed from a TLE to SLE.

The success of the CS intervention and the evidence of same can serve as a catalyst for school improvement (James & Augustin, 2017) by promoting the implementation of effective CS at CHS, which can form the focus of future AR studies at the school. Similar AR studies are encouraged, particularly across secondary schools in Trinidad and Tobago, the Caribbean region and internationally, endorsing the importance of improved pedagogical skills that meet the needs of diverse learners in the 21st century.

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