A Preliminary Examination of Teachers' and Students' Perspectives on Autonomy-Supportive Instructional Behaviors

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Abstract

The present study focuses on the perspectives of teachers and students in Singapore schools after an autonomy-supportive classroom intervention. Nurturing of students to become motivated and self-regulated learners can be achieved by promoting an autonomy-supportive learning climate. This study examines the perspectives of teachers and students in an in-depth and meaningful manner after the classroom intervention. Through students' viewpoints, teachers can understand their structure of teaching style and students' expectations. Findings of semi-structured interviews with students and teachers were analyzed, with emerging themes discussed in the context of literature. Based on qualitative data, this preliminary study explores a rich and meaningful insight to students' expectations of their teachers and teachers' expectations towards their students. The qualitative data provided relevant and practical insights into the classroom intervention, suggesting that teachers should be aware of their instructional behaviors in class as such acts might have ramification on students' perception, motivation and learning. Limitations and implications are also discussed.

Keywords: autonomy-supportive, expectations, learning, motivation, semi-structured interviews

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Un Examen Preeliminar de las Perspectivas de Docentes y Estudiantes en los Comportamientos de Instrucción de la Autonomía-Apoyo

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Resumen

El presente estudio se centra en las perspectivas de los profesores y alumnos de las escuelas de Singapur después de una intervención en un aula de autónomía-solidario. La consolidación de los estudiantes para convertirse en aprendices motivados y autorregulados se puede lograr promoviendo un clima de aprendizaje autónomo-solidario. Este estudio examina las perspectivas de los profesores y estudiantes mediante un análisis en profundidad y de manera significativa después de la intervención en el aula. Se analizaron los resultados de las entrevistas semi-estructuradas con los estudiantes y profesores, con cuestiones emergentes tratadas en el contexto de la literatura. Basado en los datos cualitativos, este estudio preliminar explora una visión rica y significativa de las expectativas de los estudiantes hacia sus profesores y las expectativas de los profesores hacia sus estudiantes Los datos cualitativos proporcionan conocimientos relevantes y prácticos a la intervención en el aula, sugiriendo que los profesores deben ser conscientes de sus comportamientos de instrucción en clase en tanto que estos actos podrían tener consecuencias en la percepción, la motivación y el aprendizaje de los estudiantes. También se discuten las limitaciones e implicaciones.

Palabras clave: autonomía-apoyo, expectativas, aprendizaje, motivación, entrevistas semiestructurada

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There is a strong proliferation of educational research on motivation and self-regulated learning in the 21st century. Much of this research has relied on quantitative approaches to assess students' self-reports of motivational regulations and learning outcomes (e.g., Akioka, Elisabeth, & Gilmore, 2013; Lüftenegger et al., 2012). Although multiple facets of the student motivation and learning were identified in quantitative analyses, they have not entailed an understanding of student perspectives.

Autonomy support refers to identifying and fostering students' intrinsic motivation by offering options; fostering interest with respect to learning; providing rationale and informational feedback; as well as encouraging self-regulated learning (Reeve, 2006). A learning climate with autonomy support promotes the student need for satisfaction and adaptive outcomes (Cheon, Reeve, & Moon, 2012). Furthermore, an autonomy-supportive environment facilitates more self-determined forms of motivation in students as opposed to controlling behaviors (e.g. Deci et al., 1982; Reeve & Jang, 2006). As the abovementioned research mainly focused on students' self-report measures, little is known in exploring students' and teachers' views on the autonomy-supportive behaviors at an in-depth level.

Conceptual Framework

Based on self-determination theory (SDT), a social learning context is essential to support students' three basic psychological needs, namely autonomy, competence and relatedness. To facilitate students' psychological needs, teachers have to create a need-supportive environment that fosters autonomous motivation (Vansteenkiste et al., 2009). Teacher autonomy support is characterized by the provision of choice and meaningful rationale, as well as the use of neutral language or informational feedback (Deci, Eghrari, Patrick, & Leone, 1994; Reeve & Jang, 2006). Studies in the SDT literature have provided the benefits associated with learners' need satisfaction and teacher's autonomy support (e.g. Furtak & Kunter, 2012; Jang, Kim, & Reeve, 2012). Furthermore, social interaction plays an important role in children's cognitive and social development (e.g., Davis, 2003; Ryan, Connell, & Deci, 1985). According to a recent intervention study in a physical education setting (Tessier et al., 2010), teacher interpersonal involvement (i.e., interaction with students) was

salient in autonomy-supportive behaviors, thus promoting students' psychological need satisfaction in relatedness, but not in autonomy and competence. There is a potential research to examine how students perceived autonomy-supportive instructional behaviors that may nurture the relationship between teacher and students.

Teacher beliefs can be conceptualized as the "primers for action" (Löfström & Poom-Valickis, 2013, p. 106), which form the background for practices and strategies that the teacher implements in the contexts of teaching and learning (Entwistle & Walker, 2000). Besides beliefs, teachers may have certain expectations as to what should or should not be observed during their lesson in terms of their students' behaviors and performance (Good & Brophy, 2000). Teachers' communicative or instructional behaviors may encourage or undermine students' performance, influencing the development of students' learning styles (Zhu, 2013). Research has shown that teachers' supportive behaviors which are essential to establish a positive teacher-student relationship are favourable to student performance (Wei, den Brok, & Zhou, 2009; Zhu, 2013). Yet, little is known about the perspectives of students on teachers' autonomy-supportive instructional behaviors.

To obtain meaningful yet detailed responses from the participants, semi-structured questions were used. Semi-structured interview allows "the researcher and participant to engage in a dialogue whereby initial questions are modified in the light of the participants' responses and the investigator is able to probe interesting and important areas which arise" (Smith & Osborn, 2003, p. 57). With semi-structured interviews, the participant can share and respond more closely in the course of the interview. The interviewing process may go into novel areas, thus producing richer data and fresh insights.

Autonomy-Supportive Interventions In Education

The aforementioned literature asserted that providence of favourable conditions (e.g., autonomy-supportive learning climate) can foster students' need satisfaction (Kistner et al., 2010; Van Nuland et al., 2012) and nurture self-regulated learning (Sierens et al., 2009). Based on the current existing knowledge, few intervention studies focused on the autonomy-supportive teaching style in academic context (Furtak & Kunter, 2012; Reeve et al.,

2004). Most of the autonomy-supportive interventions were conducted in coaching and physical educational contexts (e.g., Gagné, 2003; Cheon et al., 2012) and mainly in the States and other western contexts (Furtak & Kunter, 2012; Reeve et al., 2004).

Furtak and Kunter (2012) conducted an autonomy-supportive intervention through a reform-based science lesson on motion. It was a small-scale research evaluating the effect of procedural and cognitive autonomy-supportive teaching on student motivation and learning. Enhanced motivation and improved achievement test score demonstrated the effect of cognitive autonomy-supportive teaching. Likewise, Reeve and colleagues (2004) observed how trained teachers in autonomy-supportive behaviors engage their students' learning in an experimental group versus the untrained teachers in a control group. Their findings demonstrated enhanced engagement in students through classroom observations. Taken together, there are limited empirical studies on autonomy-supportive teaching style in academic context and such autonomy-supportive classroom intervention is yet explored in qualitative research.

Purpose of the Study

Based on the current existing knowledge, there is no empirical study that examined the perspectives of teachers and students on autonomy-supportive instructional behaviors after a classroom intervention to provide an in-depth understanding between teacher instructional practice and student motivation. This preliminary qualitative study aimed to bridge the gap in the literature on students' perspectives of teachers' autonomy-supportive instructional behaviors; to explore teachers' perspectives after the classroom intervention; as well as to provide practical insights for the alignment between teacher practice and student expectations. The present study offers a fine-grained analysis of what the teachers say that support or curtail the students' learning in their mathematics or science class.

Methodology

Participants

Forty-eight secondary students (14 to 16 years old) and three teachers participated in the study. They came from two neighbourhood secondary schools in Singapore. Students volunteered on an individual basis to be involved in the group interviews. All participants were interviewed in the school library. Prior to data collection, ethic clearance from the university review board and permission from the Ministry of Education were attained. All participants were briefed on the purpose of the study and the confidentiality of their responses was assured.

Procedure

Autonomy-supportive classroom intervention. The present study adapted a school-based intervention to promote autonomy-supportive teaching over a five-week interval of time (Chatzisarantis & Hagger, 2009). Before the five-week intervention, the researcher conducted a two 3-h sessions to train three teachers in autonomy-supportive instructional behaviors. The training program followed a similar outline as Reeve et al. (2004) which included a presentation of the basic tenets of SDT, including the different types of students' motivation (i.e., types of regulation along the SDT continuum) and two main types of teachers' motivating styles (i.e., controlling versus autonomy supportive). Five autonomy-supportive instructional acts (Reeve, 2009) were introduced to the teachers: (1) nurturing inner motivation resources; (2) providing explanatory rationales; (3) relying on informational, non-controlling language; (4) displaying patience to allow time for self-paced learning to occur; as well as (5) acknowledging and accepting students' expressions of negative affect. To confirm that three teachers understood these acts so that they could implement them properly in their own class, they were introduced to various classroom and instructional scenarios of each strategy. They worked together to identify the relevant strategy in each scenario correctly. After completing the training, these teachers implemented their autonomy-supportive instructional behaviors over the five-week interval. At the end of

the five-week intervention, semi-structured interviews were conducted on student and teacher participants.

Semi-structured interviews. Semi-structured interviews were used to obtain information about participants' responses, using questions framed in "more deliberate terms" and less open-ended (Dowson & McInerney, 2003). Semi-structured interviews can be conducted with an individual or in groups, and group interviews usually take the form of focus groups (DiCicco-Bloom & Crabtree, 2006). This study was conducted with group interviews of about eight students (3 groups from each participating school) and teachers were interviewed individually on separate occasions. All interviews were conducted using an informal guide (e.g. "What do you think is the most satisfactory about Science/Math lesson?"; "How do you feel the way your teacher had taught you for the last five weeks?" for students, and "How do you feel being an autonomy-supportive teacher?"; "How do you think you have changed as a teacher in the way you taught in class during the five weeks?" for teachers). All interviews were audio-recorded and transcribed entirely. The duration of each interview was about 40 minutes.

Data collection and analysis. Individual and group interviews were coded entirely. To assess the reliability of the coding, two independent researchers (from National Institute of Education) were enlisted to perform parallel coding of randomly selected interview transcripts. Discrepancies in the interpretation of themes were discussed and an agreement was reached. Appropriate excerpts from students' and teachers' responses were included to discuss the emerging themes.

Findings and Discussion

Five main themes emerged from the transcripts of student and teacher interviews, respectively. Descriptions of these themes with support from the relevant interview excerpts are discussed subsequently.

Students' Views

The perception of students on their autonomy-supportive teachers was evaluated using the five main themes: intrinsic motivation; autonomy; competence; relatedness; and expectations. Five categories were coded namely, smile and a sense of humor; compassion; patience and clarity; and attunement. These themes revealed rich, meaningful insights on student intrinsic motivation and their perceived needs.

Student intrinsic motivation. Interest in task or subject is strongly associated to intrinsic motivation. Students who have strong interest in a particular subject will inherently feel motivated and able to perform academically. For instance, several students from a group interview agreed that mathematics was their preferred subject. They affirmed that it was much easier for them to learn the subject with interest.

> Maths, (because we have) interest and (find it) easier to learn. (Group interview 1)

Students may demonstrate their interest in mathematics or science based on subject requirements or contents. For instance, some students enjoyed mathematics by practising mathematical sums. The following student commended that her current mathematics teacher was good at teaching the subject, thus supporting her interest in mathematics.

> … I have interest in math. I think when my teacher in primary school taught me math and I like it. From then I start to practise more. Mrs R is also not bad. (Group interview 1)

> Science needs to be like chemistry as it more exciting (doing lab experiments). (Group interview 2)

According to Schiefele and Csikszentmihalyi (1995), subject interest relates to motivation and learning. Previous research showed that students' learning experiences in mathematics are related to interest which is also a significant predictor of student achievement (Singh, Granville, & Dika, 2002).

Student autonomy. This student emphasized taking learning into his own hands so that he could be more focused in his task. This posits the importance of independent learning.

> Let us do our own things. … Like that, I can focus more. (Group interview 2)

Students felt the need for autonomy in terms of opportunity and option given in class. Furthermore, adequate time was needed for the conceptual understanding of these autonomous learners.

> Mrs R gave us choice in mathematics class and time to digest concepts. (Group interview 1)

Autonomy-supportive learning environment promoted students' sense of autonomous learning. Students acknowledged the use of options in their lesson which offered them the choice of learning.

Student competence. Conceptual understanding is important in both mathematics and science classes. Students understood the importance of the terminology used in science and initiated the query towards their teacher. The following examples demonstrated the students' competence in terms of their understanding and knowing what were the important concepts covered in class.

> I prefer exam to ask her and she explains to me. Then I don't know what "reflection" is and she (Teacher C) explains to me more details. (Group interview 2)

> She just tells us a bit of the concepts so that we can automatically remember concepts. (Group interview 3)

> I think lesson is rather more important. Like if you don't understand the lesson, how do you do the exercise? … Understanding part is the important one. (Group interview 4)

Students felt more competent in learning when their teacher supported their learning process. The abovementioned finding is congruent with

Reeve's (1998) notion affirming that autonomy-supportive teacher focused on the quality nature of learning and how to motivate students' learning experience.

Student relatedness. There are positive examples in students experiencing a sense of connectedness with their teachers. Having a positive interaction between the teacher and students, collegial relationship was established through acknowledgment and mutual respect.

> She (Teacher C) treats us good and then we respect her. […] We totally respect her. (Group interview 2)

One of the autonomy-supportive acts was demonstrated when the teachers acknowledged the students' negative affect. This particular student admitted a positive change seen in his teacher who practised autonomy-supportive instructional behavior during the intervention period.

> Sometimes they do. Usually Mrs R says that you are tired and bear with it. This is the first time she says. (Group interview 1)

Students' satisfaction of relatedness was supported when their teacher acknowledged their feelings about topics and demonstrated understanding towards their learning. Such gestures from teachers conveyed warmth, caring and respect to students (Niemiec & Ryan, 2009).

Student expectations.

Smile and a sense of humor. A healthy smile will keep the worries away. As what shared by these students, a simple gesture like smile could brighten up the day's lesson. The following students shared the same sentiment that smile was an important element in their learning.

> The way she teaches. Not like other teacher, emotionless. She got smile and jokes with us. (Group interview 6)

> Smile more. … When the teachers smile, also make us happy… Ya, smile is very essential to our studies. (Group interview 2)

Students enjoyed their lessons more when a teacher could bring up learning in a light-hearted manner. Not surprisingly, students appreciated such lessons more when their teachers could relate learning to them through a 'fun way' or humorous approach. The following example highlights a possible association of such teacher's personality with her interest in learning mathematics.

> I prefer Math. I enjoy learning with her as she is quite funny. Sometimes she is a bit forgetful. She will ask her students "What do I need to do". But actually she explains very well and I understand how she teaches. (Group interview 1)

This particular student recalled a happy moment when the teachers laughed with them in class. He enjoyed such learning experience though it might be an occasional one.

> Sometimes both of them (mathematics and science teachers) can laugh with us together. That's the moment we like. (Group interview 2)

Classroom is the place where students should be valued (Pierce, 1994). It may seem plausible that a teacher's smile can make a difference in students' life and such empirical research is yet to be conducted in educational setting. Likewise, humor releases tension by easing communication with others (Campbell 1997; Dziegielewski, Jacinto, Laudadio, & Legg-Rodriguez, 2003). The notion of humor echoed the nature of classroom dynamics and a degree of reciprocity between teacher and students (Fovet, 2009). This suggests that humor could be perceived as a tool to build the rapport between teacher and students but should be used sparingly.

Compassion. Teaching with compassion was perceived as a positive element in classroom learning. Students welcomed approachable teachers who helped them when in need. Furthermore, they acknowledged such kind gestures shown by their teacher.

> She is kind and she is someone who always helps people who don't know subject. (Group interview 6)

This student shared that his teacher was receptive to the students' queries. The science teacher also showed her concern by telling the student that he could stay back to ask her any question after class.

> She said (we) can ask any question after class. (Group interview 1)

Patience. One of the important criteria in becoming a teacher is patience. Students could see and show their appreciation towards patient teachers. Patient teachers do not lose their temper easily and they continue to conduct their lessons with perseverance. Students also prefer teachers who show patience and allow them to learn according to their pace.

> She needs to be more patient. She slows down so that more of us can understand. She maintains the pace so that we can catch up with her. (Group interview 4)

> In class, she is the most patient. Even our class is the noisiest; she has a lot of patience. … She won't stop teaching us. Continue teaching. A lot of perseverance… (Group interview 6)

Compassion and patience are virtuous characteristics of a professional teacher (Campbell, 2013), specifically known as the virtues of care. It is fascinating to discover that autonomy-supportive teachers seemed to demonstrate the persona of the virtuous teacher as well. In addition, patience corresponds to the one of the autonomy-supportive behaviors (Jang, Reeve, & Deci, 2010). Nonetheless, the heartening excerpts indicated that students appreciated the compassion and patience shown by their teachers.

Clarity. To have a good understanding of what was taught in class, clarity in teaching was vital to students. Students could grasp the concepts well when teachers could put them across in an organized and explicit manner. If too many jargons were used without much explanation, students' understanding might be thwarted. Illustrated by the following examples,

clarity in teacher's explanation of concepts was important as it could affect students' enjoyment in learning.

> If I have a better understanding of concept, I will enjoy more. (Group interview 3)

> She (Teacher C) would explain more clearly. (Group interview 2)

Autonomy-supportive learning environment provides a structure of clarity which relates to the amount of information given to students about expectations and effective ways of achieving desired educational outcomes (Reeve, 2006; Skinner, Chapman, & Baltes, 1998). Clarity of what to do along with a choice, voice and initiative is essential in autonomy-supportive instructional behaviors. With this, the students affirmed the clarity that their teacher provided during their lesson. Students are more likely to participate positively in academic tasks when their teacher provided clear expectations and contingent responses (Wang & Eccles, 2013).

Attunement. Attunement is defined as the "process of sensing and reading students' states of being and adjusting one's instruction accordingly" (Reeve & Jang, 2006, p. 216). Teachers need to understand their students' constraint at times in class. For instance, students might experience frustration when their teacher just went on and on with their teaching without any practice session. The need for practice mathematical or scientific concepts was mandatory to some of these students.

> We need more practice and not just teacher explaining. We need to do more work and not just copying the teacher work. (Group interview 3)

Some teachers were more receptive to their students' feedback and they would conduct revision class or adjust their pace of teaching.

> We can tell her and she will do for revision. (Group interview 6)

> She asks us if we want to slow down our pace. So that can fit our pace. (Group interview 2)

Attunement corresponds to the conceptualization of autonomy support and students' positive academic functioning (Reeve, 2006). Teachers who are attuned to their students tend to understand their thinking and feeling; know how engaged their students are; as well as respond to whether they understand the lesson. In addition, they make an effort to attune to their students' want and need by listening closely to what their students say.

Teachers' Views

Teachers might have changed in an enduring way or encountered challenges when implementing the autonomy-supportive acts over the five-week intervention. Examination of these teachers' views may reveal some interesting yet meaningful insights on how viable this autonomy-supportive approach was applied in school settings so as to motivate students.

Perceived value in autonomy support. Teachers did give credit to autonomy-supportive instructional behaviors during the intervention. They perceived the importance of such acts in which they could relate better to their students. One such evidence revealed was the benefits (e.g., more empathy) they experienced during the intervention period.

> Yes, I will use more on the language and empathy, how they feel in class. (Teacher A)

Teachers also perceived the value of autonomy support in terms of student-centric learning and supportive teaching.

> Yes, the patience part and also give them more student-centric activity. Relate more authentic experience to them. (Teacher B)

> I think it's a good thing. Maybe I am still in the old fashion style. But it's not true anymore. They are changing and very different from our own time. They also expect more. I do see value being autonomy-supportive teacher. So if I can… I can work with them, make them understand, and get the support, this will work very well. (Teacher C)

Teacher beliefs about intrinsic motivation. Teachers have a set of values or prior beliefs that influence their professional practice. However, teacher beliefs can be considered as a broad terminology. In this study, the category that emerged is the teacher beliefs in terms of bringing out student's intrinsic motivation. They felt that the context of learning subject could influence student's intrinsic motivation. The following excerpts showed the evidence that both teachers believed science subject was easier to arouse students' interest, thus fostering their intrinsic motivation.

> I think for science, it is easier to bring out their intrinsic motivation. So basically the context that you are teaching, it is easier to make it more interesting, compared to mathematics. But I guess for mathematics, if it's boring and suddenly bring up some topics that are interesting and students will be very motivated to learn for that topic. (Teacher A)

> I guess science in practical, because of the hands-on. They tend to be more autonomous. They are doing the practical on their own. So, I suppose this can be practised much better in practical as compared to theory. Because the theory lesson is still basically teacher-centred. So teach when I teach and they only respond to questions. (Teacher B)

Both teachers agreed that science is more interesting than mathematics and able to foster intrinsic motivation in students. Specifically, science has practical lessons which include hands-on experiences to arouse students' curiosity and interest. This could also relate to what they had learnt before when they were in school days since mathematics and science have been mandatory subjects. For instance, teacher beliefs about teaching and learning are based on their own school experience as students. Such school experience includes elements, content and experiences, which will be integrated into the teacher's professional knowledge base (Joram & Gabriele, 1998). Likewise, student teachers who completed their teacher education still hold the same set of beliefs when they entered the pre-service teachers' programs.

Teacher expectations. Students have expectations on their teachers, so do teachers. Teachers tend to follow their expectations throughout their

teaching career and exert these expectations on their students. For instance, teachers expected students to understand the key concepts so that they could apply them effectively in tests or examinations.

> Yes. The key concept must be there. But when come to application, they are not quite there yet. And the moment is phrased differently, they are caught… (Teacher B)

In particularly, senior teachers or teachers with many years of experience had reached a certain set of standards, thus finding it difficult to change their expectations so as to suit the students.

> Yes, I think so. We also come with a certain standards… you know… expectations and it's difficult to change that expectations to suit the students. So we tend to have the same expectations for all the students. So that probably created some of the problems. I have lowered my expectations but there is a limit how much I can lower it down. […] I will continue this autonomy-supportive approach… So I would have to come out my expectations. I intend to bring in some of the autonomy supportive… I want them to do well, for their own future. (Teacher C)

Teacher expectations of students' academic performance and behaviors were reflected from the excerpts. A teacher's expectations on a student's academic performance can have strong impact on the same student's actual performance (Rist, 1970). For example, if a teacher's perception reflected an accurate representation of a student's ability, that student's achievement would be desirable (Bohlmann & Weinstein, 2013). On the contrary, if a teacher's expectation of a student's ability is biased or flawed, that student would fail to achieve desirable academic outcome, thus creating a detrimental effect on the student's belief or self-efficacy. Teacher expectations may have emotional and behavioral effects on students. However, teachers can communicate their expectations explicitly in the beginning of the class, offer instrumental support, and adjust teaching strategies to the level of the student (Bohlmann & Weinstein, 2013). In this manner, students will attempt to make progress when they are aware of what is expected of them (Reeve, 2006).

Teacher self-awareness. Teachers were more conscious of what they said and did in class. They developed a sense of self-awareness after the five-week intervention. One positive example of self-awareness was demonstrated by a teacher:

> Being more conscious in what we are doing in order to bring the best out of our pupils so that it will be a conducive environment. (Teacher B)

After the intervention period, three teachers seemed to acknowledge the benefits and values being an autonomy-supportive teacher. They demonstrated self-awareness in autonomy-supportive instructional behaviors, namely the use of non-controlling language, perspective-taking, provision of explanatory rationale and choice. As teachers become more conscious and aware of the causes and consequences of their instructional behaviors, they are more capable to adapt and attune to students' needs, thus bringing out an adaptive and autonomous way of learning (Brown & Ryan, 2003; Reeve, 2009).

Use of non-controlling language. Not surprisingly, teachers who underwent autonomy-supportive instructional teaching experienced a sense of self-awareness in the use of neutral words and informational positive language.

> Because of that, I will be more conscious when I want to use the words and so that is not supposed the way to phrase the sentence. (Teacher A)

> Of course, we try to use neutral language. … We never use "stupid" on them. We ask them, "Why do you make such a decision?" … something neutral. (Teacher B)

> ... I think I can be a lot more conscious. Generally when I address the class, I try to keep this in mind. Whenever, I keep this in mind, I will use the neutral words. (Teacher C)

Perspective-taking. Autonomy-supportive teachers learnt to take the perspective of a learner. Perspective-taking allows teachers to understand

why students did that and said this through students' point of view. This approach is useful as it helps to aid students' learning whereby teachers could adopt a better strategy to overcome any disparity across learners.

> I think it depends on more on the profile of students. If I get a better profile, it will be better, more useful on them. […] I think it is not a one size fits all. Probably we have to adjust a little and the intensity of doing it. (Teacher A)

> …we understand that dealing with different pupils require different strategies. So you need to understand the background of pupils to understand which approach to take. They are some who prefer soft approach. There are some who respond only when you really deal with them. But on the other hand, there are some between the soft and hard approach. (Teacher B)

Act of explanatory rationale. One of the five acts of autonomy-supportive instructional behaviors is to provide explanatory rationale to students. Teachers demonstrated this act during the intervention period and one teacher asserted its importance – "it's good to explain to them". Moreover, this teacher was more conscious of practising the act of explanatory rationale and she would continue to do so even after the intervention period.

> I think more on the conscious part. Probably last time (before intervention) I had been doing it, but I am not conscious about it. Because I am doing it, I know. But now you know that there's something like that, it's good to explain to them. (Teacher A)

Provision of options. One of the key autonomy-supportive acts was to provide students with choices or options during learning. This particular teacher had expressed the use of options in her science class and her students appreciated such autonomy-supportive act.

> … Think carefully and choose the best option that will benefit you and all that. But I didn't do these many times. So, they do appreciate options given to them. I have negotiated certain

> deadlines with them when they say there're many things to submit and all that. (Teacher C)

Generally, the excerpts revealed that three teachers were more conscious of the words and language they used and said in class. Furthermore, they learnt to take the perspective of their students so that they can provide meaningful rationales to their students. Teachers tend to be more aware of the uninteresting tasks in class, and they provide explanatory rationale to engage students by explaining why this task is worth their effort (Reeve, 2009). However, teachers cannot generate a satisfying rationale to their students at times which may admittedly give rise to some challenges.

Teacher relatedness. Although the quality of a teacher-student relationship takes time to build, three teachers had experienced a sense of relatedness to their students to a certain extent. They shared about their connectedness with different groups or levels of students.

> I think it depends on the context and profile of students. I think a teacher has got many different personalities, in different classes and you will behave different ways. (Teacher A)

> Sometimes yes, sometimes no… Sometimes I seem I can reach to them. Sometimes I can't. […] It depends on whether they have issue with me or not. Sometimes they share with me. (Teacher B)

> Yes, I find myself more autonomy supportive for upper secondary. I don't spend much time keep them quiet. But lower sec, because of their nature, they are very hyper. Even if I talk to them, science is very important, they like "I don't care, teacher"… (Teacher C)

Teachers' beliefs may impact communication with their students as there is a possible gap between students' school experience and theirs. Such flawed communication with students is likely linked to the teacher's relatedness, which may imply why the teacher (Teacher B) experienced difficulties in reaching out to her students. This may have a salient effect on students' motivation, as students' sense of relatedness is vital to their autonomous learning. Empirical research showed that students' relatedness to teachers dropped over the middle (Furrer & Skinner, 2003; Skinner,

Furrer, Marchand, & Kindermann, 2008), elementary (Gest, Welsh, & Domitrovich, 2005) and high school years (De Wit, Karioja, & Rye, 2010). Consistent with previous research, teachers with a sense of connectedness to students develop positive teacher-student relationship. A positive teacher-student relationship is built on trust, mutual respect, confidence, good communication and a better learning environment" (Hussain, Nawaz, Nasir, Kiani, & Hussain, 2013).

Challenges faced during the intervention. Regardless of whatever teaching approach, teachers always face challenges in their class. Three teachers in the intervention condition shared their challenges – the use of the autonomy-supportive acts and the behavior of difficult students.

> I would say I tried a few methods to be an autonomy-supportive teacher and I feel that they will take you for granted. Yeah… that is the challenge I feel. …I wanted to see since you are so tired, you are not able to concentrate and probably I give you the five minutes' break and you cannot stop talking anymore. And then they paid attention. It works for once, for that particular period. And for second time, I also gave the break as they requested. Then after that, they kept asking for break. […] The first act (intrinsic motivation) is most difficult. It's also more on the subject-based. It's very difficult to control what they think and how they feel, right? (Teacher A)

> …And this is where we have problems using the correct approach. So, sometimes it's trial and error, sometimes we succeed and sometimes we don't. […] You just have to be very patient and like what you say, you may be caring to a certain extent. It must be mutual. So this is way the challenge is. (Teacher B)

> The challenge is showing empathy, because it is very difficult for teachers to do. If they are so negative on subjects, I tend talk down, tell them... we should not do this, must not and all that. It's difficult to… I find it personally difficult for me to put myself in their shoes and try to find a reason why they behaving like that and accept their reason. (Teacher C)

Three teachers acknowledged the challenges faced when practising the acts of autonomy support. Out of the five autonomy-supportive instructional behaviors, three acts namely nurturing students' inner motivation, being patient and empathetic are not easy to do so. Predictably, empathy is the most difficult act and students could easily take advantage of the situation and take the teacher for granted, as indicated by the first teacher's excerpt.

Teacher B shared an interesting teaching strategy about "trial and error". There may be circumstances in classrooms whereby teacher faced a group of diverse learners and she has to adopt different teaching strategies. As asserted by Sadler (1998), learning should be made more efficient by reducing the "rate of error production in trial and error learning" (p. 78). He stated that "trial and error learning" was inefficient and suggested a solution to counter such inefficiency – the use of formative feedback. One of the autonomy-supportive acts is to provide informational feedback which is positive and constructive (Reeve, 2009). Therefore, this qualitative study advocated a rewarding finding, that is, the important role of informational feedback via semi-structured interviews.

Implications and Limitations

This study explores the use of semi-structured interviews to offer meaningful perspectives of students and teachers after the autonomy-supportive intervention. Although there were some similarities in the coded themes, disparate views from students and teachers could still be seen. Hence, it is noteworthy to examine these disparities across students' and teachers' views, thus identifying the gaps among differing viewpoints.

First, students perceived relatedness as respect and empathy, whereas teachers viewed relatedness as the communication and connection with students. Such discrepancy indicated that teacher might have presented certain types of instructional or interactive behavior toward students such that they felt a sense of respect and empathy toward their teacher. This supports the aforementioned literature that teachers' autonomy-supportive instructional behaviors such as empathy are important to establish a harmonious relationship with their students. From the teacher's viewpoint, she might feel that the interaction with her students was not easy and teachers are usually not inclined to change their behavior (Zhu, 2013) to

suit the students' way of communication. Second, teacher beliefs are evident in the field of practice, as revealed by the findings of teachers' views. To understand whether the teachers believe that their students can do it intrinsically or not, it is necessary to explore the teacher beliefs about intrinsic motivation. Teacher beliefs about intrinsic motivation in a school or academic context could be influenced by her prior school experiences (Löfström & Poom-Valickis, 2013), suggesting that student's learning experience may differ from the teacher's past school experience.

These findings enable researchers and practitioners to have a deeper understanding of both perspectives and any interesting issue that may surface. Possible recommendations could be considered to resolve any of such issues. One related concern pertaining to teachers' views is their teacher beliefs which may influence their perceived autonomy support during intervention. Teacher beliefs can influence how a teacher reacts to a situation in terms of what choices to make and what strategies to adopt (Mahlios, Massengill-Shaw, & Berry, 2010). There is substantial evidence of teacher beliefs about teaching and learning which in turn may influence their instructional decisions (e.g., Fang, 1996; Woolfolk Hoy, Davis, & Pape, 2006). Teacher beliefs also provide an in-depth insight to understanding a teacher's behavior (Lucero, Valcke, & Schellens, 2013).

Teachers who tried to nurture their students' learning using autonomy-supportive instructional behaviors were likely associated with the students' views (i.e. compassion, patience, clarity and attunement). High school teachers who nurtured students' intrinsic motivation, used informational language and acknowledged negative affect were more likely to communicate clearly, provide strong guidance and constructive feedback to their students (Jang et al., 2010). The teacher's mindset to overcome these challenges takes time, as a teacher's willingness to change her instructional behaviors is dependent on her prior beliefs about motivation (Reeve, 2009).

With the focus of a holistic education, it is necessary to evaluate the on-going activities in class; allow students to take ownership in their work and be accountable without being punitive; engage students in learning and personal progress; as well as perceive errors or mistakes as opportunities to learn (Perry, VandeKamp, Mercer, & Nordby, 2002). Besides the five acts of autonomy-supportive behaviors (e.g., provision of choice and explanatory rationale), there may be other salient elements to create an intrinsically motivating learning context. Findings in this study not only

suggest that teachers should be aware of their instructional behaviors in class as such acts might have ramification so on students' perception and learning; they also reflect an important development in research about teacher-student relationship.

Although the present study was a small-scale qualitative research with three teacher interviewees, current findings provide insights on teachers' expectations and relatedness. There are still limitations to take into account for future research. First, there is a potential conflict of interest when the researcher played the roles as an instructor for the autonomy-supportive training of teachers and an interviewer for the teachers' interviews. However, the researcher was aware of such potential bias and had avoided imposing any effect on the teachers during the training sessions. Future research could include a university staff to conduct the autonomy-supportive training for teachers. Second, this study acknowledged the lack of group dynamic in focus group interviews as a limitation. To explain this, each focus group in this study was considered homogenous as the student participants knew one another within each focus group. To address group dynamic, future research could consider a random sampling of students to form heterogeneous focus groups.

Conclusion

The present preliminary qualitative research supports three key strengths: an in-depth understanding of the students' and teachers' perspectives after the autonomy-supportive intervention; the importance of autonomy-supportive instructional behaviors on learning and teacher-student relationship; and the prevalence of issues (e.g., expectations) that may link to the features of the teaching-learning context. This study provided a fine-grained description of autonomy-supportive behaviors from the students' and teachers' perspectives. However, much work is needed to capture what the teachers said and did in class, and every student's responses in terms of learning and interaction. It is recommended for future research to build on the present findings via classroom observations and video-recordings.

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