

Teaching Strategies that Enhance Student Motivation in Physical Education

A Synthesis of the Research Literature

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### **Abstract**

The purpose of this synthesis project is to examine teaching strategies and determine which specific strategies are best for motivating students in physical education. Previous research has indicated low levels of student motivation through traditional teaching strategies. The studies in the critical mass compare student motivation from these traditional teaching methods to non-traditional strategies with an emphasis on self-determination. Self-Determination Theory was the main basis in determining motivation throughout the studies in the critical mass. The Cooperative Learning, Sport Education Model, Teaching Games for Understanding and the Constraints-Led Approach strategies are all non-traditional teaching methods examined in this synthesis. All analysis concluded that these non-traditional approaches aid in student motivation and raise the three main components of self-determination: autonomy, relatedness, and competence.

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## **Chapter 1**

### **Introduction**

Every student has their own way of learning, thinking and motivation. Teachers all over the world are trying to find new ways to motivate their students inside and outside the classroom. Previous studies have indicated that traditional teaching strategies have been linked to poor motivational levels in physical education (Gil-Arias, Diloy-Peña et. Al, 2020) and it is time to shine some light on the need for teachers to start using non-traditional teaching strategies. Traditional physical education teaching approaches have been questioned on their effectiveness to satisfy the psychological needs of students' motivation for physical education (Moy et al., 2015). Ryan & Deci (2000) stated that students have a greater chance of becoming motivated when they value an activity or when there is a strong external or internal connection, showing support for non-traditional strategies. Non-traditional teaching strategies in physical education allow each student to experience their feelings through the three basic psychological needs: competence, relatedness, and autonomy.

There is a significant disconnect between the physical education strategies that teachers are using and what students are motivated by (Fernandez-Rio et al., 2016). This disconnect between motivation and teaching strategies can be linked to poor performance by some physical education teachers, specifically their ability to keep their students motivated in the material (Gil-Arias, Diloy-Peña et al., 2020). Technology, hormones, perceived expectations, and student teacher relationships are all possible reasons for students' poor motivation in physical education. There is a huge deficit in student motivation across the globe; it is important for physical education teachers to recognize this disconnect and discover new ways to motivate their students.

### **Motivation**

There are many different types of motivation that can take place inside the physical education classroom. The two most popular forms of motivation are intrinsic and extrinsic motivation. Three other types are external regulation, introjected regulation and amotivation. Intrinsic motivation is when students are motivated through themselves and the internal satisfaction, they get from completing a task of goal. On the other hand, extrinsic motivation is when students are motivated through the means of rewards or prizes that are outside physical consciousness. Extrinsic motivation is also a powerful tool in influencing students to become self-determined, because of the direct connection students can make with receiving rewards and in turn that satisfies their need of competence. External regulation is a form of extrinsic motivation, and it occurs when behavior is motivated by the desire to obtain a reward or avoid punishment (Guay et al., 2010). Introjected regulation is a form of motivation that refers to behaviors performed in response to internal pressures such as obligation or guilt: the individual somewhat endorses the reasons for doing something, but in a controlled way (Guay et al., 2010). The last type of motivation is amotivation which is described as the extent to which a person feels ineffective, without purpose, or internally resistant toward an action (Donald et al., 2019).

As students get older and move through school and early childhood, their own levels of motivation are subjected to change (Raufelder et al., 2013). Many students lose their own motivation in physical education because of puberty and the change in the school environment when advancing through grade levels or graduating. When students experience these motivational changes in a negative way it can lead to the withdrawal of school subject based tasks and the avoidance of such opportunities (Raufelder et al., 2013).

The lack of student motivation within physical education has the potential to contribute to an unhealthy lifestyle. Cawley and colleagues (2012) state that living a sedentary life increases

the chances of cardiovascular disease and diabetes. On the contrary, increased physical activity is associated with cardiovascular benefits such as a reduction in bad cholesterol and the prevention or delay of hypertension. Obesity is on the rise in the United States, as studies have shown that obesity has nearly quadrupled between 1965 and 2000 (Cawley, Frisvold, & Meyerhoefer, 2012). With obesity on the rise throughout the United States it is more important than ever to foster motivation in a physical education classroom in order for students to be physically active for life.

Physical education is one of the most important classes students can take throughout primary and secondary education. Physical education is a method of promoting fitness in adolescents, and teachers can encourage this physical adherence by generating motivation in students through different teaching strategies (Almolda-Tomas et al., 2014). Once students become motivated in physical education in school they are more likely to pursue physical activity for life.

### **Self-Determination Theory**

Self-Determination Theory is a motivational concept that is displayed when a child is allowed to make their own decisions for themselves. This theory allows students to make their own choices. Because of the student choice involved in Self Determination Theory, students are more likely to be intrinsically motivated when asked to perform an activity. Because intrinsic motivation refers to students engaging in an activity for their own pleasure and satisfaction (Ryan & Deci, 2000), students are more likely to be internally motivated when they experience this theory in practice. When teachers do not follow Self- Determination Theory, they tend to determine all the decisions for the students. This blocks the ability to choose and in turn hinders a child's sense of motivation and creativity (Moy et al., 2015).

Another important and influential aspect of Self-Determination Theory is that the learning environment created by physical education teachers may influence the satisfaction of three innate and universal human needs. The first of these is autonomy, which is a desire of one's own choice to commit to an activity or a task. The second universal human need is competence, which is the desire to interact efficiently and effectively with people and objects to feel confident. The third universal human need is relatedness, which is the desire to feel part of the group (Gil-Arias, Diloy-Peña et al., 2020). Self-Determination Theory also has long term effects because students who have higher levels of self-determination when they are younger will have a better chance of living a happier and healthier life with little self-doubt or regret while experiencing higher levels of pride (Ryan & Deci, 2000).

### **Types of Teaching Strategies**

There are two basic types of teaching strategies used in physical education, the first being traditional teaching strategies and the second being non-traditional teaching strategies.

Traditional teaching strategies happen when a teacher uses a direct style towards students, with a heavy emphasis on memorization and recitation. Traditional teaching strategies limit students' critical thinking, problem solving and decision-making skills (Moy, et al., 2015). Non-traditional teaching strategy occurs when teachers use extraordinary and unique methods of providing content to the students. Examples of these methods include the use of technology, questions, groups, progressions, experiential teaching and examples. These non-traditional teaching strategies are generally interactive (Gil-Arias, Diloy-Peña et al., 2020) and provide intrinsic motivation.

There are a variety of different teaching strategies that fall under the categories of traditional and non-traditional. The teaching strategies that will be focused on in this paper will

be: Cooperative Learning, Sport Education Model, Teaching Games for Understanding and the Constraints-Led Approach. The relationship between outcomes, such as student learning, student motivation, and continued participation in activity, remains an important research focus within physical education (Perlman & Goc Karp, 2010), which will be analyzed in each teaching strategy. With an influx of eager teachers comes the increase of implementation of new teaching strategies. However, what teaching strategies are best? Non-traditional teaching strategies increase student motivation by satisfying the psychological needs within Self-Determination Theory, but traditional teaching strategies have been utilized forever. The purpose of this synthesis project is to examine teaching strategies and determine what teaching strategies are best for motivating students in physical education.

### **Operational Definitions**

**Traditional Teaching Strategies-** A traditional strategy is when a teacher uses a direct style towards students and learning happens when memorization and recitation is present. Traditional teaching strategies limit students' critical thinking, problem solving and decision-making skills (Moy, et al., 2015).

**Non-Traditional Teaching Strategies-** A non-traditional teaching strategy is when teachers use extraordinary and sometimes unique methods of providing content to the students. Teachers can use technology, movies, questions, groups, progressions and examples to teach students. These non-traditional teaching strategies are generally interactive (Gil-Arias, Diloy-Peña et al., 2020).

**Autonomy-** Refers to a student's need to experience a sense of willingness in their actions, which is satisfied when they perceive that their actions are consistent with their integrated sense of self. (Gil-Arias, Harvey et al., 2020).

**Competence-** Is the fundamental need to develop a feeling of mastery through interacting with their environment to reinforce their sense of being capable individuals. (Gil-Arias, Harvey et al., 2020).

**Relatedness-** Is when humans feel a need to interact with, be connected to, and cared for, by other individuals and is fulfilled when students experience positive interactions with their classmates (Gil-Arias, Harvey et al., 2020).

**Extrinsic motivation-** refers to sources of motivation that come from outside oneself. For example, the promise of a promotion at work or the threat of losing a job can be a form of extrinsic motivation (Ryan & Deci, 2000).

**Intrinsic motivation-** Means that someone's desire to do something comes from inside them and does not need any external reward or punishment to prompt it. Pleasure, passion, and moral principles can be forms of intrinsic motivation (Ryan & Deci, 2000).

### **Statement of Purpose and Guiding Questions**

The overall purpose of this study is to investigate what teaching strategies provide the most motivation to students in physical education.

### **Assumptions**

1. It is assumed that all the studies were conducted ethically and that the results were true and accurate.

### **Limitations**

1. Not all teachers have the same knowledge and experiences in using different teaching strategies.

### **Delimitations**

1. It is assumed, for purposes of this study, that all the articles are peer reviewed.

2. Intervention/ experimental studies.
3. Teachers: Must be teaching physical education.
4. Unit of instruction doesn't matter.
5. Students can be any age.
6. Each study used self- determination theory as a theoretical framework.
7. Measure of motivation based on Self-Determination Theory.

## **Chapter 2 Methods**

### **Search Process**

Articles were found during this synthesis project using the Brockport Drake Library Database. Additional databases were utilized to extend the search, such as EBSCO Host, Gale Academic OneFile, Sage Journals, and MDPI.

During the initial searches, common authors and common key terms were found. The following keywords led to narrowing searches and articles that directly answer the synthesis question. The key terms “intrinsic motivation”, “extrinsic motivation”, “motivation”, “physical education”, “Tactical Games Approach”, “Sport Education Model”, “increase participation”, “Self-Determination Theory”, “Teaching Games for Understanding”, “non-traditional teaching strategies”, “Traditional teaching strategies”, “Constraints-Led Approach”, “Cooperative Learning” and “autonomy”. The first article search produced 2,057 matches. Narrowing the pool of articles was done by swapping out what key terms were used, as well as researching specific authors whose work was repeatedly used in the articles amassed for this study.

### **Inclusion/Exclusion**

All studies that did not explore teaching strategies in a physical education setting were excluded. Articles that were not experimental studies were also excluded. All articles had to measure motivation as one of the dependent measures and include Self-Determination Theory as the theoretical framework. Moreover, only articles published from 2000 to present were included to obtain the more recent information. After all the exclusions the final number of articles that fit the criteria for the critical mass of this paper was 11.

**Data Analysis**

Following a thorough examination of the critical mass, an article grid was made. The article grid served as an organizational tool to aid in illustrating the focus, specific themes and key words of each article. This grid was organized with each article in its own row, and with each column as a different section, such as themes, purpose, methods, and results. The findings associated with these themes are discussed in the next section.

### **Chapter 3 Results**

This section provides a synthesis of the available literature (i.e., critical mass) regarding the effectiveness of non-traditional teaching strategies for improving student self-determined motivation. Within the critical mass, five teaching strategies were examined: traditional teaching, Cooperative Learning, Sport Education Model, Teaching Games for Understanding and the Constraints-Led Approach. For each teaching strategy, a description is provided followed by a summary of the research on how it impacts student self-determined motivation.

#### **Traditional Teaching Strategies**

In order for a teaching strategy to be considered a traditional teaching strategy it must fit specific criteria. Traditional teaching strategies usually follow the pedagogical approach of task orientation in its own isolated format (Gil-Arias, Diloy-Peña et al., 2020. ). In other words, traditional physical education instruction tends to be based on content learned through memorization or repetition (Spittle & Bryne, 2009). Moy and colleagues (2015) characterized traditional teaching approaches by a few specific sequences of components. Teacher's typically start with the introduction of technical skill; this introduction is usually in isolation from the competitive performance environment. After students learn about the teacher's desired movements, then students go and attempt to reproduce teacher-prescribed movements during a task or a drill. During the tasks and drills the teacher provides regular, corrective verbal feedback. After the tasks are practiced, a concluding game or performance activity is done at the end of class. Additional concerns include the limitation of restricting learners' involvement to imitation and the reproduction of a prescribed movement skill template rather than seeking functional solutions to movement problems (Moy et al., 2015).

Studies done by Fernandez-Rio and colleagues (2016), Gil-Arias and colleagues (2020), Perlman (2012), Spittle and Bryne (2009), Luo and his colleagues (2020), Wallhead and his colleagues (2014) and Gaspar and colleagues (2021) all used traditional teaching strategies in their experimental studies in conjunction with their own non-traditional teaching strategy. All of these studies came up with the same conclusion: non-traditional strategies produce more when non-traditional teaching strategies are compared against traditional teaching strategies to figure out which one produces more motivation in students; traditional teaching strategies underperformed every time.

When a physical education teacher uses a traditional teaching strategy, it usually fails to provide self-determination through choice due the nature of the ‘one-way-fits-all’ pedagogical approach. For example, teachers typically believe that one movement pattern acts as an optimal template suitable for all individual learners (Moy et al., 2015). By offering individual instruction contrary to traditional teaching, students are more likely to become intrinsically motivated and excited to participate. To further this claim, Spittle and Bryne (2009) examined the impact of the Sport Education Model and traditional style of teaching on student motivation in physical education. The results suggest that the Sport Education condition was more successful in maintaining high levels of intrinsic motivation, task orientation, and mastery climate than Traditional Teaching Strategies.

### **Cooperative Learning**

Cooperative Learning is an instructional method where students learn in small, heterogeneous groups to achieve a shared learning goal (Saad, 2017). According to Fernandez-Rio and colleagues (2016), Cooperative Learning has five key components to its structure. These five components distinguish this teaching strategy from the rest. The first component of

Cooperative Learning is when teachers include and promote positive interdependence. This is when students work in a group and only succeed if all group members complete the task. Another component of Cooperative Learning is promoting face-to-face interaction. This is when students work in direct contact with each other during a task. Teachers also need to enforce individual accountability when using Cooperative Learning. This is when students must contribute to the group's goal. Teachers also need to take group processing into account when using Cooperative Learning, which is when students reflect and discuss during and after each task. The last component to Cooperative Learning is interpersonal and small-group skills and this is when students learn to listen to each other, to share ideas, to give and receive feedback, to take turns and to encourage others. Cooperative Learning is successful because it allows students to be the center of learning.

Fernandez-Rio and colleagues (2016) examined the effects of Cooperative Learning on motivation in physical education compared to traditional teaching strategies. This study was an experimental study where the researchers used both Cooperative Learning and a traditional teaching strategy. The participants in the study received one of the two strategies and were subjected to a pre and posttest. The results of the study showed that only the group of students that experienced Cooperative Learning on a sustained basis significantly increased their self-determined motivation through intrinsic motivation. Overall, this experimental study proved that the teaching strategy of Cooperative Learning is an effective way to increase motivation through self-determination in physical education class.

### **Sport Education Model**

The Sport Education Model has grown in popularity over the past few decades (Perlman & Goc Karp, 2010). The Sport Education model is a teaching strategy and an instruction model

designed to provide authentic, educationally rich sport experiences for students in physical education class (Siedentop, 1998). The Sport Education Model aims to offer students a meaningful sport experience. This can be achieved through sports competitions with an emphasis on maintaining the educational values that go along with each sport's specific tasks. The Sport Education Model was developed due to the desire to create authentic and educational practices for all physical education students, it seeks to help students become competent, literate, and enthusiastic individuals (Siedentop, 1998).

Perlman (2012) examined the effects of the Sport Education Model on student motivation. Students in this study were subjected to both a traditional teaching style and the Sport Education Model. The researcher in this study used 50 pre-service physical education teachers. The teachers were subjected to both a traditional teaching style and the Sport Education Model. The results revealed that when students were subjected to the Sport Education Model, they experienced more autonomy-oriented motivation, a subset of Self-Determination Theory. The study also found that the students reported that they perceived more of an autonomous social context within the Sport Education Model. These findings suggest that it is possible for teachers to adopt a more autonomous level of instruction when implementing the Sport Education Model.

Spittle and Bryne (2009) examined the impact of the Sport Education Model and the impact that traditional teaching strategies had on student motivation in physical education. The researchers in this study conducted an experimental study on 115 8th grade students. The students in the study were split up into two different groups. One group of students received lessons through the Sport Education Model, while the other group received lessons through a more traditional style of teaching. Both groups were subjected to a pre and post test. The results suggest that the Sport Education Model was more successful at maintaining high levels of

student intrinsic motivation, proving that the Sport Education Model is directly linked to the benefits of Self Determination Theory.

A similar study done by Wallhead and his colleagues (2014) examined the effects of the Sport Education Model on student motivation. In this study, students were subjected to both traditional style teaching and the Sport Education Model. Wallhead found evidence supporting the claim that the Sport Education Model increased motivation because when the Sport Education Model was present, the students developed autonomous motivation, a key component of self-determination. After the study, the researchers revealed that the increase in autonomous motivation was significantly related to the Sport Education Model. Because students felt self-determined through autonomy, they perceived higher levels of effort and enjoyment towards physical education (Wallhead, Garn, & Vidoni, 2014).

Luo and colleagues (2020) examined the effects of team game tournaments, a very similar approach to the Sport Education Model, on student motivation. It is noteworthy that with this teaching strategy, there were no significant differences in student motivation when students' level of play was present. The authors found that all learners were motivated through the interactions of peers. Team game tournaments provide students with the opportunity to interact with their peers while learning. The interactions of students with their peers had a positive impact on the motivation of continuous improvement and students' learning process (Luo et al., 2020). Interacting with peers is a form of relatedness, the third component of self-determination.

### **Teaching Games for Understanding**

Teaching Games for Understanding is another non-traditional teaching strategy, where students learn to play the game, while prioritizing the understanding of tactics and strategies (Gil-Arias, Harvey et. Al, 2020). Unlike traditional teaching strategies, Teaching Games for

Understanding permits moving in physical education beyond an activity-driven lesson (Gil-Arias, Harvey et al., 2020). The Teaching Games for Understanding model encourages the simultaneous development of physical, cognitive and emotional skills, while promoting social, physical and cognitive learning (Gaspar et al., 2021).

Gaspar and colleagues (2021) wanted to implement a comprehensive teaching study based on the principles of Teaching Games for Understanding while implementing questioning. The researchers wanted to determine students' motivation through Teaching Games for Understanding with questioning compared against Teaching Games for Understanding without questioning. Questioning is a fundamental tool within Teaching Games for Understanding aimed at improving student's ability to reflect on their own actions and sport-oriented decision making. In this study there were two groups of students, one group would receive the Teaching Games for Understanding with questioning and another group of students would receive Teaching Games for Understanding without questioning. Results showed that students taught through the Teaching Games for Understanding unit with questioning reported higher scores on motivation compared to students taught through the Teaching Games for Understanding unit without questioning. (Gaspar et al., 2021). When teachers use Teaching Games for Understanding with questioning, the cognitive domain is prioritized, and students learn the tactical aspects of a game by playing, answering questions and reflecting (Gil-Arias, Diloy-Peña et al., 2020).

### **Hybrid (Sport Education Model & Teaching Games for Understanding)**

The Sport Education Model and the Teaching Games for Understanding approach can also be used together in a hybrid model. One of the shared features for both pedagogical models is the shift of the teacher's role to facilitator of learning wherein students have increased responsibility and decision-making in the learning process (Gil-Arias, Diloy-Peña et al., 2020)

A study by Gil-Arias, Diloy-Peña and colleagues (2020) examined how effective a Hybrid Model of the Sport Education and the Teaching Games for Understanding would be compared to traditional teaching strategies during a volleyball unit with secondary students. During this experimental study, there were two groups of students, one group received the Hybrid Model first followed by the traditional style of teaching, whereas the second group received the reverse order. Researchers in this study also found that through the hybrid model, students were able to increase their autonomy, relatedness, competence, enjoyment, and intention to be physically active (Gil-Arias, Diloy-Peña et al., 2020). These results reinforce the idea that by utilizing a combination of two pedagogical models, it is possible to design situations for the student to increase self-determination through relatedness, autonomy and competence.

A similar study was conducted by Gil-Arias, Harvey and colleagues (2020) to determine how effective the same Hybrid Model would work on elementary students. The purpose of this study was to investigate the impact that the Hybrid Model had on motivation during an invasion games unit. During this experimental study, all of the students participated in both teaching strategies. Results showed that students who participated in the Hybrid Model reported higher levels of autonomy support compared to students who participated in the direct instruction unit (Gil-Arias, Harvey et al., 2020). This is important because autonomy is one of the three basic philosophical needs of self-determination, also known as the first subgroup of Self-Determination Theory. The students in this study experienced higher levels of autonomy in the Hybrid Model proving that motivation in a Hybrid Model is higher.

### **Constraints-Led Approach**

The Constraints-Led Approach is another non-traditional teaching strategy. The Constraints-Led Approach focuses on the individual learner, environment, relationship and

purpose. Moy and colleagues (2015) state that the Constraints-Led Approach has similar operational principles in practice to Teaching Games for Understanding models, such as performance exploration in modified representative games. But what makes the Constraints-Led Approach so unique is because it allows teachers to implement certain constraints on task, environment, and organism. These constraints allow students to self-organize actions while developing an understanding of their perception and cognition in an attempt to generate functional movement solutions (Roberts, Newcombe, & Davids, 2018).

Moy and colleagues (2015) wanted to determine if the Constraints-Led Approach would address basic psychological needs of learners in order to increase motivation. The participants in this study were physical education teachers who were taking college level classes. The teacher of these classes would teach students using different constraints-led teaching strategies. Each lesson would use new teaching strategies, sometimes the professor would use a traditional teaching approach as a comparison. Participants were required to complete questionnaires prior and post to each lesson. This study concluded that the Constraints-Led Approach has been proposed as a viable non-traditional teaching approach that can effectively support students' self-motivated engagement in physical education through the basic psychological needs of learners, autonomy, relatedness and competence (Moy et al., 2015). The Constraints-Led Approach is guided by key pedagogical principles of nonlinear pedagogy, and in turn addresses the basic psychological needs of learners, resulting in higher self-reported levels of self-determined motivation. The Constraints-Led Approach focuses on the individual learner-environment relationship (Moy et al., 2015).

## Summary

The studies and articles in the critical mass all support the claim that teachers who use non-traditional teaching strategies have a better chance of motivating their students in physical education on the basis of Self-Determination Theory. Physical education teachers strive to motivate their students to participate in physical activity outside of class with a long term goal that this continues after high school. Due to low motivation inside class, students have reported less than favorable attitudes towards physical education or physical activity in general. However, teachers who use the Sport Education Model, Cooperative Learning, and Teaching Games for Understanding, and the Constraints-Led Approach have a better chance of mitigating this response and motivating their students for life. Scientific literature has indicated through different intervention studies that the use non-traditional teaching strategies will not only permit the generation of a motivational class climate, but also permit obtaining permanent effects of motivation towards physical activity over time (Almolda-Tomas et al., 2014)

## Chapter 4 Discussion

The results from the previous section provided an understanding on how important it is for teachers to use non-traditional teaching strategies to motivate their students in physical education. Teachers who use different types of teaching strategies have a higher chance of motivating their students to become self-determined in physical education class. Educators are at the center of instruction and are the main source for students' motivation. The students who experience positive outcomes in physical education such as enjoyment and intention are more likely to be physically active through self-determination, which in turn makes them autonomously motivated (Gil-Arias, Diloy-Peña et al., 2020). Furthermore, literature has indicated through different experimental studies that non-traditional teaching strategies permanently affects motivation towards physical activity that can occur within students for life (Almolda-Tomas et al., 2014).

### **Relatedness**

Relatedness is one of the three basic psychological needs that must be met in order to achieve higher levels of intrinsic motivation (Ryan & Deci, 2000). Relatedness is one of the three psychological needs in order for people to become self-determined. Fernandez-Rio and colleagues (2016) found that Cooperative Learning and other non-traditional teaching strategies produced a class atmosphere where students had to work in groups cooperatively, which increased their relatedness. Because of this increase, the students' self-determined motivation also increased, which, in turn, produced a positive outcome: enjoyment. Evidence from this study supports the fact that when teachers use non-traditional teaching styles, the levels of relatedness can increase motivation in physical education classes.

Physical education teachers can still encourage relatedness even if they choose not to adapt a specific teaching approach. Teachers can structure their lessons in specific ways that help their students feel a sense of belonging without the interactions of others. Teachers should create an environment for their students that makes them feel that they are cared for and connected. Teachers can do this by being active listeners and making sure students feel that their voices are heard. Culturally responsive teaching is another way to promote a sense of safety and belonging. Relatedness is a two way street and when demonstrated properly, will increase students self-determination and consequently increase motivation.

### **Autonomy**

Autonomy is another one of the three basic psychological needs that must be met in order to achieve higher levels of intrinsic motivation (Ryan & Deci, 2000) and become self-determined. Fostering high levels of autonomous motivation in students has a positive effect on their propensity to engage in physical education (Gil-Arias, Diloy-Peña et al., 2020). An autonomy-supportive environment is created when a physical education teacher takes the students' perspective into account, provides a sense of choice that can engage students' interests, acknowledges their feelings, opinions, and their preferences. Examples include teachers transferring decision-making responsibilities to students for initiative taking within the teaching-learning process and teachers being receptive to the thoughts, questions, and ideas of the students. (Gil-Arias, Diloy-Peña et al., 2020).

Teachers may need to understand that development of autonomous instruction takes time, and that facilitation of change may lie in allowing their students more control over their learning. For example, the positive outcomes of the Sport Education Model were facilitated by the development of autonomous motivation (Wallhead, Garn, & Vidoni, 2014). Almolda-Tomas

and colleagues (2014) found that the higher level of mastery climate perceived by the students of their experimental group, targeted by the non-traditional teaching strategy, has a series of repercussions on the motivational variables established by Self-Determination theory. Therefore, non-traditional teaching strategies generate a greater chance for students to achieve mastery, positive motivation and greater satisfaction of the basic psychological needs of autonomy and perceived competence.

Conversely, controlling and traditional teaching strategies are more likely to pressure students to think or behave in particular ways without responsiveness to their perspectives. This approach restricts students' autonomy and choice through the use of controlling language and overly critical feedback. Likewise, a controlling style avoids the active involvement of students in their own learning and can generate negative consequences, such as anxiety and boredom, and result in demotivating students (Gil-Arias, Diloy-Peña et al., 2020).

### **Competence**

Competence is the third and final basic psychological need that must be met in order to achieve higher levels of intrinsic motivation and become self-determined. Competence is essential to wellness, which means to feel effective and a sense of mastery in one's environment. Competence refers to the feeling of experiencing mastery in the physical domain. (Ryan & Deci, 2000). Studies have found that traditional teaching strategies are linked to the decrease in competence (Spittle & Bryne, 2009). Traditional physical education teaching approaches have been questioned on their effectiveness to satisfy the psychological needs of students' motivation for physical education on the basis of competence (Moy et al., 2015).

Non-traditional teaching strategies are integral for competence to be experienced by students. Perlman & Goc Karp (2010) conducted a study on the Sport Education Model and

through their study, evidence indicated student's reported a higher level of psychological needs such as competence support when engaged in Sport Education. Another study showed that there was a significant difference between the Sport Education and traditional conditions on changes in perceived competence (Spittle & Bryne, 2009).

### **Promoting Non-traditional Teaching Strategies**

It is easy to put into perspective how important non-traditional teaching strategies are to increase student motivation in physical education based on the findings of the critical mass. It is difficult to compel teachers to use these strategies. There are a few strategies that can be done to help traditional teachers teach non traditionally. One idea is that teachers could go to conferences and seminars to learn more about these new teaching approaches. The second strategy is for teachers to get mentored by someone who is an expert in non-traditional teaching strategies. A third strategy is for these teachers to go back to school and learn about different teaching approaches. A fourth and final idea is for administrators to offer more in-service training to their staff. When physical education teachers go to school they are supposed to take classes that teach them about different curricular models and instructional approaches and some universities only require their students to take half a semester's worth of curricular instruction classes. This means that physical education teachers are graduating with their certification not knowing the true benefits of non-traditional teaching strategies. It is crucial to implement the four strategies above to minimize this negative effect.

Parents and guardians can also help reinforce the benefits of non-traditional teaching strategies. By asking their kids what they learned in Physical education each day, parents and guardians can learn more about their child's current motivation. Parents and guardians can push for their child's education by attending parent teacher meetings and school board meetings. They

can fight for these non-traditional teaching strategies and argue that they should be used in their home school district.

### **Limitations**

While reading and collecting evidence from different studies, a few limitations became evident. Almost all of the teachers who were participating in this study were professionals; new teachers with experience in the field were not included in these studies. The influence of the teacher must be considered as a limitation of the design. Different teachers were responsible for the classes and their interaction and instructional approach is likely to have had some impact on motivation. The practices of the teachers were not reported in the study. In addition, teacher intention was not controlled for or measured. Teachers' goals or intentions for classes are likely to have an impact on student outcomes, including motivation. (Spittle & Bryne, 2009).

### **Future Research**

Even though there is a lot of important research on non-traditional teaching strategies in general physical education class, there is no research out there on non-traditional teaching strategies and the effects they have on student motivation in adaptive physical education. Further research should be conducted to see if the same teaching strategies have the same effect on students with disabilities. As more students with disabilities make their way into the general physical education classroom it is important to conduct this type of study. Even though there is a large amount of important research on non-traditional teaching strategies in physical education class, there is little to no research on the effects of other non-traditional teaching strategies like, reciprocal teaching, guided discovery, divergent, convergent, self-check, and inclusion strategies (Morgan, Kingston, & Sprouleet, 2005).

## Conclusion

Every teaching strategy has pros and cons and not every strategy will work with every student. If teachers want to have a better chance of motivating their students in physical education it doesn't matter what non-traditional teaching strategy they use and as long as that teaching strategy is non-traditional. It is hard to say exactly what teaching strategy is better because they all have their own strengths. Different teaching strategies are more successful in specific units, while others are not as effective. It is important for physical education teachers to change up their teaching approach because knowing what teaching strategy to use during each unit can help produce greater motivation among students.

There is a positive trend apparent when non-traditional teaching strategies are used. Not only do these strategies have positive effects within the immediate classes, but also long term. All non-traditional teaching strategies discussed are proven to be successful for physical education teachers to motivate their students. Physical education class has the potential of creating a space where each and every student experiences three basic psychological needs: autonomy, competence and relatedness. For example, Cooperative Learning fosters a class environment with more relatedness which shows a result in increased self-determination. The Hybrid Model increased autonomy, which led to increased student motivation. In addition, a positive change in perceived competence and relatedness predicted students' perceived effort in the Sport Education Model. The Constraints Led Approach is a powerful model that addresses the skill acquisition and psychological needs of individuals across all physical education contexts and provides a powerful conceptual framework for the learning process in physical education (Moy, et al., 2015).

A positive change in all three psychological constructs can cause a significant number of positive experiences in students through perceived enjoyment. Non-traditional teaching strategies prioritize the need for autonomy, competence and relatedness, which increases intrinsic motivation and an overall positive reaction for physical education. All three aspects of Self-Determination Theory can influence intrinsic motivation and subsequent positive affective responses towards physical education as a whole (Wallhead, Garn, & Vidoni, 2014). Physical education teachers must find a way to prioritize these constructs in daily instruction to increase motivation.

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**Appendix A**  
**Synthesis Article Grid**

Author	Title	Purpose	Participants	Teaching strategy	Methods & Procedures	Results
Javier Fernandez-Rioa* , Naira Sanzb , Judith Fernandez-Candoc and Luis Santosa	Impact of sustained cooperative learning intervention	The main goal was to investigate the impact of a sustained Cooperative Learning intervention on student motivation.	249 students (grades 8–11) and 4 teachers enrolled in 4 different high schools agreed to participate	cooperative learning	A pre-test, post-test, quasi-experimental, comparison group design was followed	The most important outcome of the present study was that only the group of students that experienced Cooperative Learning on a sustained basis significantly increased their most self-determined types of motivation: intrinsic motivation and identified regulation.
Alexander Gil-Arias, Stephen Harvey, Francisco Garcia-Herreros,	Effect of a hybrid teaching games for understanding/sport education unit on elementary students' self-determined	The purpose of this study was to investigate the motivational outcomes of elementary boys and girls as they	Participants were 292 elementary school students	Hybrid	A pre-intervention/post-intervention quasi-experimental design was used	Results showed that boys and girls who participated in the hybrid TGfU/SE unit reported higher levels of autonomy support compared to

Sixto Gonzalez-Villora, Alba Prexedes, Alberto Moreno	motivation in physical education	participated in an invasion game unit through two pedagogical models: a hybrid TGfU/SE unit or a direct instruction unit				boys and girls who participated in the direct instruction unit.
Dana Perlman*	The influence of the Sport Education Model on developing autonomous instruction	The purpose of this study was to provide an initial examination into the influence of using the Sport Education approach on pre-service teachers autonomous instruction.	50 pre-service physical education teachers	Sport education model	Experimental	a significantly higher level of autonomy-supportive statements.

Michael Spittle and Kate Byrne	The influence of Sport Education on student motivation in physical education	To investigate the influence of the Sport Education model on student motivation	Participants were 115 Year-8 students, ages 13– 14 years	Sport education model	Experimental	There was a significant difference between the conditions on changes in perceived competence, task orientation, and mastery climate, with the Traditional condition decreasing significantly from pre- to post-test compared with the Sport Education condition.
Yu-jy Luo, Mei-ling Lin, Chien-Huei Hsu, Chun-Chin Liao, Chun-Chieh Kao	The Effects of Team-Game-Tournaments Application towards Learning Motivation and Motor Skills in College Physical Education	analyze the impact of a TGT unit on learning motivation and motor skills	108 students who enrolled in an advanced basketball course from two classes in a Taiwanese university were recruited	Team-Game-Tournaments/ sport education model	Experimental	After the TGT experimental course intervention was employed, it was discovered to be superior to conventional teaching methods in terms of students' learning motivation in the PE course.

Tristan L. Wallhead Alex C. Garn Carla Vidoni	Effect of a Sport Education Program on Motivation for Physical Education and Leisure-Time Physical Activity	The purpose of this study was to examine the effect of a high school sport education curriculum program on students' motivation for physical education and leisure-time physical	Participants were 568 high school students enrolled in the required physical education programs at 2 schools,	Sport education model	experimental	Sport education facilitates more internalized forms of student motivation in required physical education programs
Alexander Gil-Arias, Sergio Diloy-Peña, Javier Sevil-Serrano, Luis García-González and Ángel Abós	A Hybrid TGfU/SE Volleyball Teaching Unit for Enhancing Motivation in Physical Education: A Mixed-Method Approach	this pre-experimental study analyzed the effects of a hybrid teaching games for understanding/sport education (TGfU/SE) volleyball teaching unit on students' motivational outcomes, using a mixed-method approach. It also examined whether the intervention was equally	Participants were 53 secondary school students	Hybrid	this pre-experimental study relied upon a quantitative and qualitative research perspective with methodological triangulation	Overall, quantitative and qualitative results showed that after implementing the hybrid TGfU/SE volleyball teaching unit, both boys and girls reported improvements in most of the SDT-related variables.

		effective for boys and girls.				
Francisco J. Almolda-Tomás ; Javier Sevil-Serrano ; José A. Julián-Clemente ; Alberto Abarca-Sos ; Alberto Aibar-Solana ; & Luis García-González .	Application of Teaching Strategies for Improving Students' Situational Motivation in Physical Education	n. The aim of the study was to develop and implement teaching intervention strategies to generate an optimal motivational climate and assess their impact on different variables that affect students' situational motivation in Physical Education classes.	participation of 113 3rd year (secondary education) students	Task motivated climates	Experimental study	The results showed that the experimental group obtained significantly higher values with respect to the control group in the mastery motivational climate, as well as in autonomy, perceived competence, identified regulation and satisfaction-enjoyment.

<p>Vicente Gaspar, Alexander Gil-Arias, Fernando Del Villar, Alba Práxedes, Alberto Moreno.</p>	<p>How TGfU Influence on Students' Motivational Outcomes in Physical Education? A Study in Elementary School Context</p>	<p>The purpose of this study was to implement a comprehensive teaching program based on the principles of Teaching Games for Understanding (TGfU) model and questioning, and to assess its consequences for students' satisfaction of basic psychological needs, motivation, perceptions of ability and intention to be physically active during Physical Education lessons in primary education</p>	<p>Participants were 111 students from two different groups of fifth and sixth graders, all enrolled in one primary school</p>	<p>Teaching games for understanding</p>	<p>Experimental study</p>	<p>Our results showed that boys and girls taught through the TGfU unit with questioning would report higher scores on all variables post-intervention compared to pre-intervention than boys and girls taught through TGfU unit without questioning.</p>
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Brendan Moya,* , Ian Renshawa,b and Keith Davidsc,d	The impact of nonlinear pedagogy on physical education teacher education students' intrinsic motivation	sought to investigate whether adopting the learning design and delivery of the CLA, guided by key pedagogical principles of nonlinear pedagogy (NLP), would address basic psychological needs of learners, resulting in higher self-reported levels of intrinsic motivation.	54 pre-service PETE students undertaking a compulsory second-year practical unit at an Australian university was recruited for the study,	nonlinear pedagogy	Experimental study	Higher levels of motivation were detected.
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