# The Proposal of SEMERC Model to Enhance Fundamental Movement Skills in Table Tennis

Chanoknat Rattanachaloemwong<sup>1</sup>, Sathin Prachanban<sup>2</sup>, Anan Malarat<sup>3</sup>, Kasem Pantusa<sup>4</sup>

{nokyoong\_pe@hotmail.com<sup>1</sup>, drsathin@gmail.com<sup>2</sup>, ananma@swu.ac.th<sup>3</sup>, kasempantusa@gmail.com<sup>4</sup>}

Physical Education department, Srinakharinwirot University<sup>1</sup>, Physical Education department, Srinakharinwirot University<sup>2</sup>, Physical Education department, Srinakharinwirot University<sup>3</sup>, Physical Education department, Thaksin University<sup>4</sup>

**Abstract.** The aim of this article was to propose the instructional model for enhance fundamental movement skills of grade 7 students. Through information; concepts and educational theories synthesizing of Robert Gagne', Flipped Classrooms and Cooperative learning. The instructional model was SEMERC Model that consisted of 6 elements: 1) S : Self-Study 2) E : Self Evaluation 3) M : Motivation 4) E : Expand Knowledge 5) R : Response and Feedback and 6) C : Construction. Students can learn through basic movement activities and games. They can reasonably practice and problem solving reflectively to inquire the best answers. Teacher's role should encourage students through self-directed learning, give an advice, feedback, motivate them to get more practice and drawn conclusions by themselves. SEMERC Model can be develop basic movement skills that lead to table tennis skills.

Keywords: Instructional Model, Fundamental Movement Skills, Table Tennis.

# **1** Introduction

Table Tennis may be a well known wear within the word. Competitions are held on numerous levels and and is included in universal competitions such as: Ocean Recreations, Asian Recreations, and Olympic Recreations. Table tennis has numerous components such as: Serve, Return, Forehand drive, Strike drive, and Crush. All of this has distinctive challenges and requires different mechanical abilities and capacities such as: Stand, Adjust, Development, Dexterity, Coordination. In understanding [1], it is important to give top priority to the importance of physical fitness in junior high school table tennis instruction in order to ensure that table tennis instruction achieves the expected results. Especially in professional table tennis matches, a table tennis player regularly has to endure at least 50 minutes of intense training. When physical capacity is depleted, it can affect the final outcome of the game and even drop out in a short period of time. In this way, strengthening the physical fitness of elementary school students can greatly improve the physical fitness of students, develop an interest in table tennis, and develop the physical strength to reliably complete important

teaching and preparation tasks. When teaching table tennis, it is important to use your hands to speed up the game, such as swinging your arms or raising your legs. Secondly, physical fitness preparation can promote the quality of the arms, legs and feet of elementary school students and the quality of the core according to their actual needs, so that they can easily complete the activity steps of daily table tennis training and teaching. increase. Essential developmental skills (FMS) are the essential building blocks of motor skills and are considered to be the foundation for a person to develop higher developmental groups and contextual physical activity [2]. He has two subsets of FMS that are performed in an upright or bipedal posture.

Skills to control movements and questions [3]. Motor skills require broad physical development and may include movements such as walking, sprinting, jumping, hopping, and sliding [4], [5], [6]. Question control skills, on the other hand, are more passive and include skills such as hitting, throwing, kicking, catching, throwing the ball overhand, and rolling the ball underhand. [2] Says good basic motor skills Contributes to physical development, Cognition, and children's social skills. These are the foundations for living. In accordance with [7] Teaching basic movement skills in physical education lessons 1 period per week for a period of 6 weeks. Positively affects the ability to move fundamentally, Level of physical activity, and Self- awareness of physical fitness Therefore, basic movement skills, it will result in good athletic skills.

Current teaching and learning Table tennis, though, is a popular sport But the development process also has problems with table tennis skills. This makes the learner under-skilled. This is because teaching has neglected basic motor skills. Basic movements are so important to practice in order to master them, leading to athletic skills. The learning process must incorporate basic swaying skills. So the researchers thought about developing SEMERC Model to enhance fundamental movement skills in table tennis. By drawing on the theoretical concept of Robert Gagne' Cooperative learning and Flipped Classroom. Design 6-step learning By the learner through the SEMERC Model.

Critical developmental skills are developmental blueprints that relate to different parts of the body and set the stage for physical performance. Critical development skills are the basic development or progenitor design of the more specific and complex skills used in games, entertainment, and certain sports. Physical competence is an individual's ability to train his or her body to perform an activity correctly and safely and to recognize the physical, social, cognitive and enthusiastic qualities necessary to do so. Gymnastic-like exercises promote further development of all developmental patterns. [8] Basic Developed Skills This is a form of development that involves specific body parts such as arms, legs, abdomen, head, and also running he skills. Bounce, pick, throw. Hitting and matching. These skills are fundamental to a child's development. This is also because it allows students to develop more complex skills.

This asset bunches abilities and exercises beneath three principal development aptitude categories:

Locomotor abilities include the body moving in any heading from one point to another. Locomotor aptitudes in this asset incorporate strolling, running, evading, bouncing, jumping and skipping. Steadiness aptitudes include the body adjusting either in one put (inactive) or whereas in movement (energetic). Steadiness abilities in this asset incorporate landing, adjust (inactive and energetic) and turn.

Manipulative abilities include dealing with and controlling objects with the hand, the foot or an execute (adhere, bat or racquet). Manipulative abilities in this asset incorporate tossing and catching, striking with the hands, feet and an execute (e.g. kicking, volleying, batting and spilling).

Table Tennis could be a prevalent wear within the world. Competitions are held on numerous levels and is included in universal competitions such as: Ocean Recreations, Asian Recreations, and Olympic Recreations. Table tennis is played on a difficult table which is isolated by a net. Players stand in mirror images of each other and hit balls of light across the table with small circular paddles. Adding spin to the ball reduces the chance of hitting the ball more than once. Therefore, players tend to turn the ball over at some point and give the opponent a serve. Table tennis is played both individually and in pairs. Both men's and women's categories are played. Table tennis is played according to the rules of the Worldwide Table Tennis League (ITTF). Table tennis skills include [9]

In table tennis, the grip is the way the player holds the racket. He has three racket grips, and some players have one or both.

## Penhold:

This hold is named because the write operation is performed after the hold. This involves rotating the player's middle, ring and pinky fingers around the racket. This way of holding the bat is called the Chinese style.

#### wave hands :

As the title suggests, this type of handshake occurs after a handshake. In Europe and the United States, many players use this grip, so it is also called the Western grip.

#### Forehand drive:

The forehand or forehand shot is often the first and most basic skill a table tennis player learns. This swing occurs when the ball hits the side of your body that holds the paddle. At the peak of the bounce, the player rotates their body and arms to return the ball over the net. The forehand punch should mirror the motion of hitting the ball with the palm of the hand with the thumb pointing up.

#### Impact drive:

Backhand, or punching power, is the most important skill a table tennis player needs to learn. This swing occurs when the ball flies toward the non-clubface side of the player's body. In these situations, players can change positions and use footwork to create a forehand swing, but often the ball is quicker to do so. They use punch swings. They move the racket over the center of the body and hit the ball behind the racket.

## additional fee :

On a table tennis serve, he shoots the ball out of his hand and bounces it once to any part of the table on his side and on the net side. Serves are made at the start of each Table 10 rally.

There are countless variations of the serve used by the best table tennis players, but the most important basic forms are his forehand serve and his slap serve. The best serves have to be well placed and confuse your opponent.

## footwork:

A fast foot is fundamental to becoming a competent table tennis player. A player needs to be able to react quickly to a ball hit on his side, and good footwork is the best way to reach the ball on time. A table tennis player needs to be able to move side to side, inside and outside. This means you need to be able to move your feet quickly to the left and right of the table, from front to back. In table tennis, these two movements should be practiced the most, but sometimes players cross their legs.

## 2 Methods

This hypothesis states that there are several different types or levels of learning. A characteristic of these classifications is that each type requires a different kind of instruction. Gagne recognizes his five main categories of learning.

Linguistic data, mental abilities, cognitive processes, motor skills and behavior. Various internal and external conditions are very important for any form of learning. For example, learning cognitive processes requires a way to find unused solutions to problems. To memorize states of mind, learners must be exposed to valid verbal expressions and persuasive arguments. Gagné recommends that intellectual skill learning tasks can be arranged in an order that reflects their complexity.

Recognition, reaction speed, method tracking, use of formulas, distinguishing features, improving conception, applying show and performing problem solving. The essential point of the chain of command is to distinguish between prerequisites that must be met to facilitate learning at each level. Recognition of requirements is done through a formal review of the study/training contract. Learning command chains is a prerequisite for teaching order.

In expansion, the hypothesis traces nine directions occasions and comparing cognitive forms: [10]

(1) picking up consideration (gathering) : Since learning learner is in a few way situated and responsive to approaching data, picking up consideration is the self-evident to begin with occasion that must happen in instruction. The significance of attention was moreover examined within the past chapter. where it played a conspicuous part in Keller's show of motivational plan. Ordinarily, picking up consideration is fulfilled by a few sort of boost alter, which may be rehashed in different shapes all through a lesson to recapture students' consideration when they show up to be off-task. Illustrations incorporate the instructor calling out specific students' names, utilizing verb such as 'Listen up, everyone," or turning the lights on and off. In intervened instruction, picking up consideration might take the shape of blazing signals on the screen or the sound of beeps demonstrating "Explore for a message on the screen."

(2) educating learners of the objective (hope) : We saw within the past chapter the effect that self- desires can have on inspiration. A comparative case is hoding an hope almost what one is

to memorize will impact ensuing handling of data related to that anticipation. In case, for case, learners are mindful and arranged to memorize certain data, they will be more alarm to any jolts related to that objective. Hopes are effortlessly set up by basic explanations of directions objectives, references to what understudies will be able to do after instruction, or shows of expected learning results. It ought to be noted that all understudies, whethet youthful or develop, will create desires almost what they are gathered to memorize any guidelines circumstance. When the instructor or guidelines fabric isn't unequivocal approximately learning objectives (or they are in struggle with one another), understudies are likely to require their prompts from what happens in lesson and what shows up on tests (Driscoll et al., 1990).

(3) invigorating review of earlier learning (recovery) : invigorating review of earlier learning can be asstraightforward as reminding leaers of what was examined the day some time recently, or final week, in course. Typically frequently served within the speedy audits with which numerous instructors start each exercises, In a few occasions, in any case, basic updates are not sufficient. It at that point gets to be fundamental to reestablish the prerequisite information or abilities by a few practice activity (Gagne & Driscoll, 1988). An illustration can be seen within the taking after convention, taken from Driscoll and Dick's (1991) perceptions of an eighth review science instructor approximately midway through an guidelines unit on light and focal points.

Significant exertion is frequently required for learners to exchange earlier information to unused circumstances, indeed when they are mindful that they have such important information (Salomon & Perkins, 1989). Besides, learners may basically discover it less demanding to inquire somebody else for the reply than to figure it out for themselves. In situations in which the precess of tackling issues is an igoal of insirucion, sew ses sou be incited in ways that advance their perseverance in "staying with it."

(4) displaying the jolt (particular discernment) : This cvent upon what is to be learned. In case the objective of instruction is data procurement, at that point the boost may comprise of a reading material chapter, address, or film comtaining the substance. I, on the other hand, the specified result is mental expertise learning, at that point the most successful jolt is one that unmistakably shows distincive highlights of the concept or run the show to be learned. In Driscoll and Dick's (1991) perceptions, Tor example, the concept of center usented by the textbook im a graph highlighting its basic tures and by the educator employing a light box, focal points, and chalk clean. Within the last mentioned case, the leacher emphasized cssential features of the concept through signals and verbal clarifications as she conducted the demonstration. Preseming the stimulus for motor skill or cognitive technique learning cunsists of illustrating the craved result or giving verbal bearings. For allitude learning, the boost may be a exhibit of the specified activity or choice, for the most part by a show. For all sorts of results, the boost introduction ought to emphasize particular features or fundamental components of the craved result in arrange to lacilitate the forms of design acknowledgment and seleclive recognition.

(5) giving learning direction (semantic encoding) : Occasion 5: Giving Learning Direction. is given in instruction moreover depends upon the specified result, but the essential prepare to be Lacilitated is semantic encoding. Particularly, instructional activities ought to advance the passage of what is to be learned into long. Term memory in a meaningful way. Here is where

a educator or guidelines basic and one of a kind architect ought to allude to the learning conditions that are to each sort of learning result.

(6) inspiring execution (reacting) : Guidelines Occasions 1 through 5 apparently guarantee that learning has happened, i.e., that what was to be learned has been adequately encoded and put away in long-term memory. Occasion 6, at that point, empowers the learners to affirm their learning--to themselves, their instructors, and others. It requires the learner tocreate a execution, ing that's an suitable pointer of what was learned. Remem arning must be inferred from behavior, so for this occasion, an in address to reply concerns what behavior will serve as the finest record of the required learning objective. The aim of eliciting execution is for learners to illustrate what they have learned without penalty. In other words, this occasion gives an opportunity to gage advance, with the presumption that mistakes are still experiencing rectification and execution is still being made strides. The following occasion, at that point, gives the learners with data valuable for affecting execution enhancement.

(7) giving criticism (support) : Having appeared what they can do, learners ought to be given instructive criticism on their execution. This suggests, for information and aptitudes that call for discrete answers, telling the learners whether or not their answers are redress. On the off chance that inaccurate, input ought to help learners in recognizing and adjusting their mistakes.

(8) surveying execution (recovery) : Keep in mind that learning was characterized in terms of a alter in behavior or execution that holds on over time. In other words, a unused ability must be performed dependably some time recently most instructors will agree that it has been well learned. Hence, after learners have had opportunities to illustrate and refine their information, it may be formally evaluated. This occasion is regularly carried out through unit or chapter ventures, p#rtfolios,skill exhibits, and so on. It moreover ten the premise on which understudy grades are alloted. Indeed with this occasion occurg so lale in a lesson, be that as it may, Gagne and Driscoll (1988) state desirable for each adjust performance to be given suitable input.

(9) enhancing retention and exchange (generalization) : Occasion 9: Upgrading Maintenance and Exchange. In spite of the fact that this is often the last cvent within the arrangement, directions exercises to enhance retention and exchange are frequently built into the instruction at a much carlier stage. It has as of now been proposed, for occasion, that a assortment of illustrations and settings Occasion 9: Enhancing Maintenance and Exchange. In spite of the fact that this is the final cvent within the arrangement, guidelines exercises to enhance maintenance and exchange are habitually built into the instruction at a much carlier phase. It has as of now been recommended, for occurrence, that a assortment of cases and settings

A few definitions of agreeable learning have been defined. The one most broadly used in higher instruction is likely that of David and Roger Johnson of the College of Minnesota. Concurring to the Johnson and Johnson demonstrate, agreeable learning is instruction that includes students working in groups to achieve a common objective, beneath conditions that incorporate the following components: [11]

(1) Positive interdependency. Group individuals are obliged to depend on one another to attain the objective. In case any group individuals come up short to do their portion, everybody endures results. (2) Person responsibility. All understudies in a bunch are held responsible for doing their share of the work and for authority of all of the fabric to be learned.

(3) Face-to-face promotive interaction. In spite of the fact that a few of the gatherwork may be allocate led out and done exclusively, a few must be done intelligence, with gather members providing one another with feedback, challenging thinking and conclusions, and perhaps most vitally, instructing and empowering one another.

(4) Suitable utilize of collaborative aptitudes. Understudies are empowered and made a difference to create and hone trust-building, administration, decision-making, communication, and strife administration aptitudes.

(5) Gather preparing. Group members set bunch objectives, occasionally evaluate what they are doing well as a team, and recognize changes they will make to operate more successfully within the future.

All sound cooperative relationships have these five essential components display. This is often genuine of peer mentoring, accomplice learning, peer intervention, grown-up work bunches, families, and other agreeable connections. This conceptual "measuring stick" ought to characterize any agreeable relationship.

# **3 Result**

Positive Interdependency

A major requirement for well-organized instruction is for students to accept 'sink or swim together'. Under a comfortable learning environment, students have her two tasks.

1) learn what is presented and 2) make sure that all members of the group learn what descends. The technical term for this double duty is positive interdependence. Positive interdependence is that sophomores are connected to their groupmates in ways that they cannot succeed (and bad habits are reversed) unless they do so and/or It happens when you realize that your own efforts must be combined with those of your group mates. Positive interdependence encourages students to:

1) ensure that our work benefits our groupmates and their work benefits us, and 2) collaborate in small groups to maximize everyone's learning and share assets. Provide common support and support, and celebrate victories together. A clear recognition of positive interdependencies achieves:

(1) Each bunch member's endeavors are required and vital for bunch victory (i.e., there can be no "free-riders").

(2) Each bunch part includes a special commitment to create to the joint exertion since of his or her assets and/or part and assignment obligations.

Face-to-Face Promotive Interaction

Positive interdependency comes about in promotive interaction. Promotive interaction may be characterized as people empowering and encouraging each other's endeavors to attain, total assignments, and create in arrange to reach the group's objectives. In spite of the fact that positive interdependency in and of itself may have a few impact on results, it is the face-toface promotive interaction among people cultivated by the positive inter-relationships, and mental alteration and social competence. Promotive interaction is characterized by people giving each other with productive and viable offer assistance and help; trading required assets, such as data and materials, and preparing data more productively and successfully; giving each other with input in arrange to make strides their consequent execution; challenging each other's conclusions and thinking in arrange to promote higher quality choice making and more noteworthy knowledge into the issues being considered; supporting the effort of exertion to realize common objectives; affecting each other's endeavors to attain the group's objectives; acting in trusting and dependable ways; being motivated to endeavor for mutual benefit; and keeping up a direct level of excitement characterized by moo uneasiness and push.

#### Person Accountability/Personal Duty

Among the early pilgrims of Massachusetts there was a saying, "In case you are doing not work, you are doing not eat." Everybody had to do their reasonable share of the work. The third basic component of agreeable learning is person responsibility, which exists when the execution of person understudies is evaluated, the comes about are given back to the person and the gather, and the understudy i s held capable by bunch mates for contributing his or her reasonable share to the group's victory. It is critical that the gather knows who needs more help, bolster, and support in completing the task. It is additionally vitalthat gather individuals know they cannot "catch a ride" on the work of others. When it is troublesome to distinguish members' commitments, when members' commitments are repetitive, and when individuals are not mindful for the ultimate gather result, they may be seeking a free ride. This can be called social loafing.

#### Interpersonal skills and small group skills

A fourth fundamental component of fun learning is the proper use of interpersonal and small group skills. To foster efforts to achieve common goals, students should:

1) get to know and trust each other, 2) communicate accurately and clearly, 3) recognize and support each other, and 4) resolve conflicts in a meaningful way[12],[13]. Gathering socially gifted students and telling them to adjust doesn't mean they can do it. We are not naturally impulsive and know how to interact meaningfully with others. Interpersonal and small group skills don't magically come into play when you need them. Students need to be taught the social skills necessary for quality collaboration and encouraged to use them to work productively in fun groups. The entire collection flow area is based on the concept that social skills are the key to collection efficiency [13].

The higher the social competence of the students and the more emphasis the teachers put on teaching and using social skills, the higher the expected outcomes in the study group. Lew and Mesch [14], [15], [16], in their consideration of the long-term use of learning capacity, found that reward contingencies for social skill use, positive interdependence and academic opportunity examined the impact of Accomplishments are carried out in fun learning packages. As part of the eligibility requirements, students are prepared for four social skills each week, and each participant in a comfortable group is instructed by the instructor that all participants demonstrate three of her four social skills. I received two test reward points when I observed the The results suggest that a combination of positive interdependence, academic

motivation for all group members to perform well, and social skills opportunities led to high grades.

## Gather Preparing

The fifth basic component of agreeable learning is gather handling. Successful gather work is impacted by whether or not bunches reflect on (i.e., prepare) how well they are working. A process is an identifiable arrangement of occasions taking put over time, and handle objectives allude to the arrangement of occasions instrumental in accomplishing result objectives [13]. Gather preparing may be characterized as reflecting on a bunch session to: 1) depict what part activities were supportive and unhelpful, and 2) make choices almost what actions to proceed or alter. The reason of bunch handling is to clarify and improve the adequacy of the individuals in contributing to the collaborative endeavors to attain the group's objectives.

#### Flipped classroom

Flipped classrooms can be used as part of broader instructional development, including blended learning, inquiry-based learning, other teaching approaches, and tools that integrate flexible and competent learners [17]. Furthermore, this is a model that helps learners take personal responsibility for their learning [18]. Flipped classroom demonstrations provide an environment that includes extension-based exercises and real-world exercises to help learners better understand the topic during the lesson. Instead of imagining a date from the instructor during the course, learners are able to see how they feel by watching course recordings, listening to podcasts, reading e-books, and meeting peers online. Recognize what you are learning to do. Learners have access to these extensive sources at any time. This allows instructors to spend more time communicating with each user. The most important goal is to enable learners to learn more seriously [17].

Flipped classroom show could be a part of a wide learning activity which covers mixed learning, inquiry-based learning and other instructive approaches and the apparatuses that coordinated flexible, efficient learners [17]. Other than, it is also a show which contributes to create learners take their possess learning responsibilities [18]. Flipped classroom approach emerged from the thought to supply instruction at home watching recordings rather than conventional classroom instruction. In the classroom the time spend to internalize the already given data by teacher with distinctive methods. This is accomplished through video records given already. Teachers have the chance to urge included with understudies actually. In this way, the time went through in classroom is utilized viably [19].

With its least complex definition flipped classroom approach is communicated as "what is done at school done at domestic, homework done at domestic completed in class" [20].

In this approach some time recently the course the understudies observe hypothetical portion of lesson by means of numerous types of gear such as online recordings, introductions, learning administration frameworks and take notes, plan questions almost the parts that they don't get it [21]. Amid course they accomplish supporting exercises such as finding answers together to the questions they arranged some time recently lesson, group working, issue tackling, discourse and making an deduction [22]. Flipped classroom is an approach that exchanges learning duty from instructor to the understudy [23]

[24] clarified conventional flipped classroom demonstrate as "what is done at school done at domestic, homework done at domestic completed in class". In traditional flipped classroom approach students come to course by observing the address video of past night. The lesson begins with brief questions and answers. In the event that there are focuses in address that are not caught on, they are clarified comprehensively. Within the rest of time, the instructor makes exercises based on addressing and gives one to one bolster to understudies. In this kind of course structure, the lessons are always given as address video arrange out of course period and the educator never teach lesson specifically. Appropriately, students are given opportunity to memorize by talking about. In this approach not a educator centered course but a understudy centered lesson is in address and the educator is in course as fair a direct. In flipped classroom approach time is rebuilt. In any case, in conventional approach educating of subject takes the foremost of course time[25]. Course movement periods in conventional approach of [24] and class activity periods in flipped classroom.

# **4 Discussion**

Flipped classroom approach has four diverse components. It is communicated that in arrange to instructors accomplish this approach, they ought to take this four component into thought [25]. The properties of this approach which its English correspondence is "Flip" are clarified like this by alluding to begin with letters:

F ("F"lexible Environment): It demonstrates arrangement of time and put flexibity of learning.

L ("L"earning Culture): In conventional educator centered approach the source of information is educator. In flipped classroom approach there's move from educator centered approach to understudy centered approach.

I ("I"ntentional Substance): Flipped classroom teachers both think approximately how instruction is utilized to supply familiarity and how they can create cognitive understanding of understudies.

P ("P"rofessional Teacher): The duty of flipped classroom teachers is more than the ones utilizing conventional approach. Flipped classroom teachers persistently watch understudies amid the course, assess their considers and make feedbacks [26]. From the concept and hypothesis, it can be summarized as appeared in Table 1.

Table 1. Concept Theory of Gagne, Flipped Classroom, and Cooperative Learning						
Gagne	Flipped Classroom	Cooperative Learning				
1. Gaining attention	1. Design	1. Positive interdependence				
2. Informing learners of the objective	<ol><li>Prepare</li></ol>	2. Individual accountability				
3. Stimulating recall of prior learning	<ol><li>Share video</li></ol>	3. Face-to-face promotive interaction				
4. Presenting the stimulus	4. Change	4. Appropriate use of collaborative skills				
5. Providing learning guidance	5. Divide into groups	5. Group processing				
6. Eliciting performance	6. Present work					
7. Providing feedback						
8. Assessing performance						
9. Enhancing retention and transfer						

From the synthesis of concepts The whole theory comes out as the SEMERC Model as shown in Table 2.

**Table 2.** Concept Basic theories used in the development of SEMERC Model

Teaching procedure							
Theory	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	
	Self-Study	Self Evaluation	Motivation	Expand Knowledge	Response and	Construction	
					Feedback		
Gagne	Gaining attention	Informing learners of the objective	Stimulating recall of prior learning, Providing learning,	Presenting thestimulus	Eliciting performance, Providing feedback, Assessing	Enhancing retention and transfer	
T-1 - 1	D ·		Guidance		performance		
Flipped Classroom	Design, Prepare, Sharevideo			Change, Divide into groups		Present work	
Cooperativ eLearning				Positive interdependence, Individual accountability, Face- to-face, Promotive interaction		Appropriateuse of collaborative skills, Group processing	

From Table 2 Concept Basic theories used in the development of SEMERC Model. Shown as a model, as shown in Figure 1.



Figure 1. SEMERC Model

The analysis and synthesis of principles. concept Theory and documentation make it possible to get the concept SEMERC Model to enhance fundamental movement skills in table tennis. It consists of 6 stages.

S = Self-Study: Pre-class learning by learning through learning materials and conducting in person outside the classroom. Students learn from practice and practice that produces useful knowledge and experience.

E = Self Evaluation : Assessment of sports skills by passing a skills test to assess one's abilities. The test has criteria that determine the student's ability.

M = Motivation : Motivation the child's desire to learn. Teachers use problems or situations that are in the child's interest to challenge them to think independently and find answers. This is to examine the child's knowledge and experience in order to prepare them for the next stage of learning activities.

E = Expand Knowledge : It is the application of the knowledge generated to associate it with prior knowledge or concepts that or conclusions have been drawn to describe another situation or event.

R = Reaction and Input : Having appeared what they can do, learners ought to be given enlightening criticism on their execution. This infers, for information and aptitudes that call for discrete answers, telling the learners whether or not their answers are redress. In case inaccurate, input ought to help learners in recognizing and adjusting their blunders.

C = Construction: All students have the opportunity to represent the work and knowledge that the members of each group create. It uses a variety of presentation methods based on the child's abilities and interests.

# **5** Conclusion

Application of movement principles relating to each skill are provided where appropriate. It is important. Because, If you have good Fundamental Movement skills, it will lead to good sports skills. SEMERC Model can be develop basic movement skills that lead to table tennis skills. Students can develop Fundamental Movement Skills in Table Tennis Through this model. The hallmark of this Moldel is that Child-centered learning and practice on their own before class. Then take a Self Evaluation. In addition to that, this model encourages learners to want to learn. Have fun and enjoy studying, Group collaboration. Finally, students can understand and summarize their own knowledge. The teachers are the guide to learning. This model should be applied to students to show results.

## References

[1] Yidan Wang. Exploration of Physical Fitness Training Path in Table Tennis Teaching in Middle School. Frontiers in SportResearch. 2021; 3(2): 25-27.

[2] Lubans DR, Morgan PJ, Cliff DP, et al. Fundamental movement skills in children and adolescents: Review of associated health benefits. Sports Medicine. 2010; 40(12): 1019–1035.

[3] Burton A, Miller D. Movement Skill Assessment. Human Kinetics. Champaign. Illinois. 1998

[4] Foweather L, McWhannel N, Henaghan J, Lees A, Stratton G, Batterham A. Effect of a 9-week after school multiskills club on fundamental movement skill proficiency in 8 to 9 year old children: an exploratory trial. Percept Motor Skill. 2008; 106:745–54.

[5] Okely A, Booth M. Mastery of fundamental movement skills among children in New South Wales: prevalence and socio-demographic distribution. J Sci Med Sport. 2004; 7:358–72.

[6] Ulrich D. Test of Gross Motor Development. [2nd ed.]. Pro-Ed, Austin, Texas. 2000.

[7] Bryant, E.S.; Duncan, M.J.; Birch, S.L.; James, R.S. Can Fundamental Movement Skill Mastery Be Increased via a Six Week Physical Activity Intervention to Have Positive Effects on Physical Activity and Physical Self-Perception? Sports. 2016; 4(10).

[8] Jani Ma et al. Cross-cultural comparison of fundamental movement skills in 9- to 10-year-old children from England and China. European Physical Education Review 2022; 28(2): 519–533.

[9] Riza Mae Alce. asic skill strategies and technique in table tennis. SCRIBD. 2019. 1-14.

10 Conditions of Learning: Gagne. (2022). Retrieved from <a href="http://tip.psychology.org/gagne.html">http://tip.psychology.org/gagne.html</a> 28/8/2022

[11] P.A. Mabrouk, ed., Active Learning: Models from the Analytical Sciences, ACS Symposium Series 970, Chapter 4, pp. 34–

53. Washington, DC: American Chemical Society, 2007...

[12] Johnson, UW., Johnson, H., Stanne, M., & Garibaldi, A. Impact of group processing on achievement in cooperative groups. Journal of Social Psychology. 1990; 130: 507-516.

[13] Johnson, D.W., Johnson, R., Ortiz, A., & Stanne, M. Impact of positive goal and resource interdependence on achievement, interaction, and attitudes. Journal of General Psychology. 1991; 118(4), 341-347.

[14] Lew, M., Mesch, ID., Johnson, D.W., & Johnson, H. Components of cooperative learning: Effects of collaborative skills and academic group contingencies on achievement and mainstreaming. Contemporary Educational Psychology. 1986a; 11: 229-239.

[15] Lew, M., Mesch, U., Johnson, D.W., & Johnson, H. Positive interdependence, academic and collaborative-skills group contingencies and isolated students. American Educational Research Journal. 1986b; 23: 476-488.

[16] Meach, U., Lew, M., Johnson, 11W., & Johnson H. Isolated teenagers, cooperative learning and the training of social skills. Journal of Psychology. 1986; 120: 328-334.

[17] Johnson, L., Becker, S., Estrada, V., & Freeman, A. Horizon Report: 2014 Higher Education. 2014.

[18] Fulton, K. Upside down and inside out : Flip your classroom to improve student learning. Learning & Leading withTechnology. 2012; 39(8): 12–17.

[19] Zownorega, Stephen J.. "Effectiveness of flipping the classroom in a honors level, mechanicsbased physics class." Master's Thesis. Eastern Illinois University. View publication. 2013.

[20] Bergmann, J., & Sams, A. Flipping for mastery. Educational Leadership. 2014; 71(4): 24-29.

[21] Kim, M. K., Kim, S. M., Khera, O., & Getman, J. The experience of three flipped classrooms in an urban university: An exploration of design principles. Internet and Higher Education. 2014; 22: 37–50.

[22] Formica, S.P., Easley, J.L. & Spraker, M.C. Transforming common-sense beliefs into Newtonian thinking through just-in- time teaching. Phys. Educ. Res. 2010; 6: 1–7.

[23] Overmyer, J. Flipped classrooms 101. Principal. 2012. 46–47.

[24] Bergmann, J., & Sams, A. Flip your classroom: Reach every student in every class every day. Washington, DC: Internal Society for Technology in Education. 2012.

[25] Bergmann, J. & Waddell, D. To flip or not to flip?. Learning and Leading With Technology, 2012; 39(8).

[26] Flipped Learning Network (FLN). The Four Pillars of F-L-I-P<sup>TM</sup>. 28/8/2022 http://flippedlearning.org//site/Default.aspx?PageID=92