

1 **Applying the TARGET Pedagogical Principles in Physical Education to Enhance Students'**

2 **Physical Literacy**

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5 Kevin Morgan

6
7 Cardiff School of Sport and Health Sciences, Cardiff Metropolitan University,

8 Cyncoed Campus, Cardiff, UK, CF23 6XD

9 Kmorgan@cardiffmet.ac.uk

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17 **Abstract**

18 A mastery motivational climate, emphasizing self-referenced and individualized learning in
19 physical education (P.E.), is consistent with a personalized physical literacy disposition
20 defined as; the knowledge and understanding, perceived competence, confidence and
21 motivation to remain physically active throughout the life-course. The TARGET acronym (task,
22 authority, recognition, grouping, evaluation and time) represents the pedagogical principles
23 that promote a mastery motivational climate. The purpose of this article is to propose TARGET
24 as a pedagogical framework to enhance physical literacy in P.E.

Introduction

Previous research (Morgan *et al.*, 2013) has suggested that a mastery motivational climate, emphasizing self-referenced and individualized learning in physical education (P.E.), is consistent with the personalized physical literacy journey that Whitehead (2010) promotes. Based on Epstein's (1988) original work, Ames (1992) identified the TARGET (task, authority, recognition, grouping, evaluation and time) structures as the pedagogical principles that promote a mastery motivational climate (see Table 1). The purpose of this article is to propose TARGET as a pedagogical framework to enhance students' physical literacy in the P.E. curriculum. Specifically, this article will attempt to justify why the TARGET pedagogical structures are, in the author's opinion, consistent with physical literacy. Further, it will make some suggestions as to how the TARGET structures can be manipulated to enhance the components of physical literacy, namely the knowledge and understanding, perceived competence, confidence and motivation to remain physically active throughout the life-course. In order to do so, a brief introduction and background to motivational climate is deemed necessary.

Insert Table 1 here

Motivational Climate

Motivational climate is defined as a situationally dependent, psychological (perceived) environment directing goals of action (Ames, 1992). When an emphasis by the teacher is placed on learning, self-referenced goals, improvement and effort, a mastery climate is promoted. When such a mastery climate is perceived by students, they are more likely to adopt positive behaviors such as trying hard, selecting challenging tasks and persisting in the face of difficulty (Ames, 1992; Braithwaite, Spray & Warburton, 2011). In contrast, when the

1 emphasis is placed on social comparison and outperforming others in P.E., an ego climate is
2 more likely to be perceived by the students. In this case (particularly when perceptions of
3 ability are low), students often adopt more negative behaviors and demonstrate anxiety,
4 boredom and a lack of effort and engagement, in an attempt to protect themselves from
5 demonstrating low ability (Ames, 1992; Braithwaite, Spray & Warburton, 2011).

6 Xiang, McBride, and Solmon (2003), identified that PE teachers often create a
7 'blending' of mastery and ego-oriented climates in their lessons. However, Nicholls (1989)
8 argues that, at any one moment in time, individuals (students) can only be mastery or ego
9 involved. It is not certain as to whether individuals can perceive the motivational climate to
10 be task and ego involving at the same time, but it is difficult to imagine how such discrepant
11 perceptions of the motivational climate can occur simultaneously (Duda & Balaguer, 2007).

12 Manipulating the TARGET structures in P.E. to be mastery focused has been related to
13 positive motivational responses such as: higher levels of perceived competence, satisfaction
14 and enjoyment, less boredom, a stronger preference for engaging in more challenging tasks,
15 higher intrinsic motivation and a stronger belief that success is the result of effort
16 (Braithwaite, Spray & Warburton, 2011; Digelidis, Papaioannou, Lapidis, & Christodoulidis,
17 2004; Morgan & Carpenter, 2002). Such student responses are highly consistent with the
18 disposition that physical literacy aims to develop (Whitehead, 2013). The following sections
19 aim to identify some specific pedagogical principles and strategies that can be employed for
20 each of the TARGET structures in order to enhance students' physical literacy.

21 **TARGET Pedagogical Principles**

22 **Task.** The emphasis in the task structure is threefold: to promote personalized self-
23 referenced learning goals; to differentiate the tasks for inclusion and optimal challenge; and
24 to include a variety of tasks to maintain students' interest and engagement (Ames, 1992).

1 Developing the ability to set realistic and achievable learning goals is an essential life skill for
2 the enhancement of knowledge and understanding to maintain a healthy and active lifestyle,
3 which is identified as the primary aim of physical literacy (Whitehead, 2013). In a P.E. context,
4 this process is likely to be shared between the teacher and students initially, but over time,
5 the aim should be to develop students' ability to set their own personalized learning goals for
6 a sustainable healthy lifestyle. Teaching basic 'goal setting' techniques such as SMART goals
7 (specific, measurable, achievable, relevant and time bound), could be one way to achieve this.

8 Inclusion values the achievement of everyone equally and promotes the notion that
9 all participants can achieve success irrespective of ability and personal circumstances (Stidder
10 & Hayes, 2013). The design and choice of tasks is a crucial aspect in promoting such inclusion
11 in P.E. lessons and in fostering a climate that helps to motivate students of all abilities to
12 participate. Designing a varied and interesting range of tasks in such a way that the different
13 levels of physical and cognitive abilities are challenged is a key consideration for P.E. teachers
14 in facilitating an inclusive learning environment (Stidder & Hayes, 2013). Choices need to be
15 provided for students and they need to feel comfortable to opt into the tasks that best suit
16 their level of ability at that point in time (ability should be seen as 'incremental' and not fixed).
17 In such a learning environment, students' confidence and perceived ability levels are
18 protected and their motivation is more likely to be enhanced (Ames, 1992). The teacher is
19 instrumental in fostering this type of mastery climate, which links well to a 'nurturing'
20 pedagogical agenda where the personal development of the individuals is considered
21 paramount (Almond & Whitehead, 2012) and confidence, perceived competence and
22 motivation are the key outcomes.

23 Multi-dimensional tasks, where students participate in different tasks (individually or
24 in small groups) simultaneously and then move between the various tasks during the lesson,

1 can also be an effective strategy for maintaining interest and motivation when the lesson
2 content lends itself to this design (Ames, 1992). Such multi-dimensional lessons also have the
3 potential to limit the comparisons that pupils naturally make when the whole class is doing
4 the same task.

5 ***How the task structure can be manipulated to enhance physical literacy.***

- 6 • Share the intended learning outcomes with the students to develop their
7 knowledge and understanding of the physical activities and of healthy lifestyles;
- 8 • Teach students how to 'goal set' using the SMART acronym (specific, measurable,
9 achievable, relevant and time bound) to promote personalized self-referenced
10 mastery goals and enhance motivation;
- 11 • Differentiate the tasks by planning for different levels of ability and allowing
12 student' choice, for inclusion and optimal challenge to develop confidence and
13 physical competence;
- 14 • Include a range and variety of tasks within and between lessons to enhance
15 motivation and develop a broad range of physical competences. Include multi-
16 dimensional lesson designs, where several different tasks take place
17 simultaneously, to help motivate pupils and de-emphasize opportunities for ability
18 comparisons

19 **Authority.** The authority structure relates to the balance of decision making between
20 teacher and students during the lessons and is directly relatable to self-determined
21 motivation (Deci & Ryan, 1985; Prusak et al., 2004). A mastery climate encourages learners
22 to take on leadership roles and participate in decision making in P.E. lessons. Involvement in
23 decision-making has been associated with positive motivational responses such as feelings of
24 self-competence, responsibility, independence and greater levels of self-determination and

1 engagement in learning (Ames, 1992; Prusak et al., 2004). This aspect of the TARGET
2 structures is closely related to the 'autonomy' need in the self-determination theory of
3 motivation (Deci & Ryan, 1985; Prusak et al., 2004). As motivation is considered an important
4 outcome of physical literacy, autonomy within the authority structure is considered vital in
5 developing life-long physical activity behaviors. Student voice, therefore, is an important
6 pedagogical consideration and increasing pupil choice within the curriculum can have a
7 positive impact on students' motivation within P.E. lessons (Ntoumanis, 2001). Linked to this,
8 research by Morgan, Kingston and Sproule (2005a) has demonstrated that 'student-centered'
9 teaching styles, such as the reciprocal and guided discovery styles from Mosston and
10 Ashworth's (2002) Spectrum, can foster a more mastery involving motivational climate than
11 'teacher-centered' styles such as command and practice.

12 ***How the authority structure can be manipulated to enhance physical literacy.***

- 13 • Encourage students to participate in decision-making during lessons to develop
14 their confidence and knowledge and understanding of physical activities and
15 healthy lifestyle behaviors;
- 16 • Provide students with autonomy and choice in lessons, for example, on the type
17 and difficulty level of the tasks and the time to spend on each activity, to enhance
18 their self-determined motivation and perceived competence;
- 19 • Create opportunities for students to take on leadership roles, for example captain,
20 coach, referee, timekeeper etc., to develop their confidence, knowledge and
21 understanding;

- 1 • Adopt student-centered teaching styles, such as reciprocal (peer teaching) and
2 guided discovery along with other styles from the ‘production cluster’ in Mosston
3 and Ashworth’s (2002) Spectrum of teaching styles, to promote a mastery learning
4 environment. See Morgan’s (2011) ‘Athletics Challenges’ for examples of how this
5 can be achieved in track and field athletics lessons.

6 **Recognition and relationships.** The types and reasons for recognition have important
7 consequences for students’ learning, perceived competence, confidence and motivation in
8 PE lessons (Ames, 1992). According to Ames (1992), to foster a mastery motivational climate, the
9 recognition should be focused on individual learning, effort and progress, rather than ability
10 comparisons against other students. This will provide equal opportunity for all students to be
11 recognized for their accomplishments, not just the high achievers, as everyone can try hard
12 and there is always room for improvement (Ames, 1992). When students are encouraged to
13 focus on self-referenced improvement, they are more likely to make favorable judgements
14 and to develop a ‘growth’ mind set (Philpott, 2016).

15 Killingbeck and Whitehead (2015) emphasized the need to view learners as individuals
16 when observing them, and to realize that they are all at different stages of personal
17 development, with different levels of self-confidence. Providing individual feedback and
18 distributing this equally amongst the class members is a logistical challenge for P.E. teachers.
19 However, by providing one-to-one feedback the teacher recognizes every student’s individual
20 learning needs, which is more likely to enhance their motivation, perceived competence and
21 levels of confidence (Ames, 1992), all key factors in enhancing physical literacy.

22 Almond and Whitehead (2012) suggested that, in order to foster a caring and
23 nurturing climate for the development of physical literacy; teachers should value all
24 individuals equally and create a caring and considerate atmosphere that is sensitive to

1 individual differences, needs and interests. Further, building productive working relationships
2 is a key aspect of the pedagogue's role (Almond & Whitehead, 2012). Given the importance
3 of developing such positive relationships with the learners in PE, Morgan (2017) argued that
4 the 'R' in TARGET should also represent 'relationships' and considers it to be a crucial part of
5 a mastery motivational climate. Further, the 'R' could also represent the feeling of 'relatedness'
6 between pupils (Deci & Ryan, 1985), which is covered in more detail in the next section on grouping,

7 ***How the recognition structure can be manipulated to enhance physical***
8 ***literary.***

- 9 • Encourage all students and attempt to recognize them equally for their individual
10 learning, effort and progress to allow them equal opportunity for success and to
11 develop their confidence, competence and motivation;
- 12 • Urge students to consider their performances against themselves, not others, to
13 develop a 'growth' mind set and enhance self-confidence, perceived competence
14 and self-determined motivation;
- 15 • Consider students as individuals, with different learning needs, and educate them
16 to realize that they are all at different stages of personal development, thereby
17 enhancing their self-confidence and perceived competence;
- 18 • Value all students equally and aspire to create a caring and considerate
19 atmosphere that is sensitive to individual differences, needs and interests to boost
20 confidence and motivation.
- 21 • Aim to develop good teacher-student relationships, by getting to know and
22 understand students as individuals, to help boost their motivation to participate;
- 23 • Plan and design activities that allow opportunities for students to relate with each
24 other during P.E. lessons to improve their motivation and sense of relatedness.

1 Adopting the Cooperative Learning Model (Dyson & Casey, 2012) is an excellent
2 way of achieving this as identified in the next section.

3 **Grouping.** According to Ames (1992), when the teacher promotes mixed ability and
4 varied grouping arrangements a mastery climate is more likely to be perceived. Furthermore,
5 cooperation within groups is an essential requirement of a mastery climate (Ames, 1992). This
6 is consistent with the Cooperative Learning model in P.E. (Dyson & Casey, 2012). According
7 to Dyson and Casey, (2012), for groups to be truly cooperative the following elements need
8 to be in place: positive interdependence between group members; ‘face-face’ interaction;
9 individual accountability; personal responsibility to achieve the group’s goals; frequent use of
10 relevant interpersonal and small-group skills; and frequent and regular ‘group processing’ of
11 current functioning to improve future effectiveness. Fostering such team dynamics is a
12 difficult and time-consuming challenge for P.E. teachers but if successfully achieved, can be
13 an effective way of developing students’ confidence and motivation to participate by
14 enhancing their feelings of relatedness (Deci & Ryan, 1985).

15 Another important aspect of the grouping structure is the use of varied grouping
16 arrangements, which involves re-grouping learners on a regular basis both within and
17 between lessons (Ames, 1992). This can make it more challenging to build ‘positive
18 interdependence’ and ‘individual accountability’ due to potentially difficult interpersonal
19 relationships between different group members. However, such varied grouping
20 arrangements have the potential for significant gains in learners’ personal and social
21 development, as they would need to practice their interpersonal skills with a wider group of
22 peers (Dyson & Casey, 2012), which can be seen as crucial for lifelong participation in group-
23 based physical activities outside of and beyond the school setting.

24 ***How the grouping structure can be manipulated to enhance physical literacy.***

- 1 • Use varied grouping arrangements by re-grouping learners regularly, both within
2 and between lessons, to develop personal and social skills for lifelong participation
3 in group based physical activities;
- 4 • Encourage cooperative groups, where students work together towards a common
5 goal and help each other to improve, to develop confidence and motivation;
- 6 • Implement the Cooperative Learning model (Dyson & Casey, 2012) to developing
7 students' confidence and motivation to participate in PE by enhancing their
8 feelings of relatedness.

9 **Evaluation.** Evaluation is one of the most important features of the P.E. environment
10 and consequently students' motivation can be easily undermined by it (Morgan, Milton &
11 Longville, 2015). Evaluation that emphasizes normative assessment and peer comparisons
12 promotes an ego climate that can impair students' perceived ability, intrinsic interest and self-
13 esteem (Nicholls, 1989), all key factors in physical literacy. In contrast, when evaluation is
14 based on improvement, progress towards individual or team goals, participation and effort,
15 all pupils have equal opportunity to achieve success and to develop their physical
16 competence. Formative assessment strategies for the promotion of a mastery motivational
17 climate are consistent with Assessment for Learning (AfL) strategies (Assessment Reform
18 Group, 1999). Such strategies include informing pupils of the criteria against which they are
19 being evaluated and including them in self-evaluation and reflection activities. By becoming
20 more aware of their own strengths and areas for development, students are more likely to
21 understand their learning and performance, and to be able to set themselves realistic and
22 achievable goals for improvement.

23 Identifying where the students are, communicating their strengths and areas for
24 development and agreeing the next steps required for improvement, are all essential

1 elements of effective evaluation (Newton & Bowler, 2015). Further, the use of teacher
2 questioning, combined with self-evaluations are important strategies for evaluating learning
3 and in fostering a positive motivational environment (Newton & Bowler, 2015). Such
4 evaluation strategies are more likely to enhance the knowledge and understanding, physical
5 competence and confidence of the students, all key components of physical literacy
6 (Whitehead, 2013).

7 ***How the evaluation structure can be manipulated to enhance physical***
8 ***literary.***

- 9 • Base student evaluation and rewards on improvement, progress towards
10 individual or team goals, participation and effort, to enable equal opportunity for
11 success and to develop physical competence and confidence;
- 12 • Use formative assessment strategies, such as informing pupils of the criteria
13 against which they are being evaluated, questioning and including them in self-
14 evaluation and reflection activities, to improve their knowledge and
15 understanding of performance and healthy lifestyle behaviors. The Programmed
16 Practice Sheet (Prusak, 2005) is an excellent example of an effective skill
17 evaluation tool that fits especially well with motivational climate and promoting
18 physical literacy.
- 19 • Identify where the students are in their individual learning journey, communicate
20 with them about their strengths and areas for development and agree the next
21 steps required for improvement.

22 **Time.** The pace of instruction and the time allotted for completing tasks significantly
23 influences students' motivation (Ames, 1992). From a mastery perspective, the key concept
24 is to allow flexible learning time to accommodate individuals with different prerequisite skills

1 (Ames, 1992). If this is neglected, P.E. teachers will deny differences in students' learning rates
2 and reduce the number of effective learners (Epstein, 1988). In promoting a mastery
3 motivational climate, the use of extension tasks is an effective strategy for those students
4 that finish the task early. Similarly, allowing additional time for those who require it will allow
5 students to progress at their own optimal rate of learning (Epstein, 1988).

6 ***How the time structure can be manipulated to enhance physical literacy.***

- 7 • Allow students flexible learning time on tasks to accommodate their individual
8 differences and learning needs, to develop competence, confidence and
9 motivation;
- 10 • Include extension tasks for those students who finish tasks early and allow
11 additional practice and learning time for those who require it to promote
12 optimum challenge and encourage students' motivation, confidence and
13 inclusion.
- 14 • Encourage students to be physically active for as long as possible during lessons
15 whilst also allowing for learning opportunities and the development of
16 knowledge and understanding.

17 **The inter-relatedness of the TARGET structures.** Ames (1992) argued that the
18 TARGET structures are interdependent, but posed the more specific question of whether
19 they operate in an additive or multiplicative fashion. If they are additive, then they become
20 complementary and inadequacy in one structure can be compensated for by strengths in
21 another. If, on the other hand, the structures are multiplicative, they cannot compensate for
22 each other. Researchers have found evidence of an additive relationship between the
23 TARGET structures in P.E., with recognition and evaluation being the most influential in

1 determining students' climate perceptions (Morgan, Sproule, Weigand, & Carpenter,
2 2005b). Thus, despite competition being part of P.E., teachers can still emphasize, recognize
3 and evaluate the mastery elements of effort, participation, cooperation, parity and
4 persistence (Pangrazi, 2001) and promote an overall mastery involving climate (Morgan, et
5 al., 2005b)

6 **Conclusions**

7 In summary, a mastery motivational climate is created when the teacher organizes tasks that
8 are multi-dimensional, designed for variety and enjoyment and are differentiated to meet the
9 needs of all learners. Additionally, a mastery climate is achieved when the teacher encourages
10 the students to make decisions, when groups are of mixed ability, varied and co-operative,
11 and recognition is focused on learning, effort and improvement. Finally, the emphasis in
12 evaluation should be on assessment for learning and for the time structure, students should
13 be allowed flexibility for the duration they spend on tasks to accommodate their different
14 rates of learning. When the TARGET (task, authority, recognition, grouping, evaluation and
15 time) principles (Ames, 1992) are adhered to in P.E., students' intrinsic motivation is
16 enhanced and this in turn promotes higher levels of enjoyment, perceptions of competence
17 and a positive attitude towards the activities (Morgan et al., 2005a). Such student responses
18 are entirely consistent with enhancing physical literacy. This paper argues accordingly that
19 the pedagogical principles of TARGET can be used as a pedagogical framework to enhance
20 physical literacy in P.E. lessons.

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