A Beginner Badminton Coach Training and Education Program: A Workshop of Multi-goal Strategies

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Abstract: The main purpose of the training and education program implemented in this study was to develop knowledge and skills of beginner badminton coaches in applying multi-goal strategies (MGS) as an integral part of psychological skill training (PST) in order to implement it in an integrated manner in badminton training process. 20 beginner badminton coaches coming from ten different cities in West Java province, Indonesia, were selected to participate in the workshop conducted for four days. It is expected that the output of the program is a hypothetical model of an applicative conceptual framework of the use of MGS in badminton coaching for young beginner student-athlete badminton players.

1 RELEVANCE

Apart from mental imagery, self-talk, and relaxation, another crucial component of psychological strategy in improving performance is goal setting, or GS (Thelwell and Greenless, 2003). GS is a technique to determine the orientation of training goal that mobilizes individual behavior in achieving the goal (Hidayat, 2011). In the action theory, GS has a function as an analysis strategy in the mental control level that is responsible for initiating other psychological strategies, such as self-talk and mental imagery (Schack and Hackfort, 2007), and also for regulating all student-athlete activities in all structure of movement construction process (Hidayat, 2016).

According to the orientation dimension (Zimmerman and Kitsantas, 1997; Gould, 2001; Cox, 2015), GS is classified into product goal (orientated on the final result or focus on the task perfection), process goal (focused on the skill mastery and skill development), performance goal (directed on the achievement of movement skill as a whole), dynamic or shifting goal (oriented on the combination of process and product goal), and multi-goal strategies (MGS).

Several studies found that MGS plays a higher role compared to other GS, in terms of improving learning, sport performance, or psychological skill development (Kingston and Hardy, 1997; Steinberg and Maurer, 1999; Filby, Maynard, and Graydon, 1999; Hidayat, 2012). The urgency of MGS is getting higher and it is strengthen by the function and the role of a coach as

a profile model and manager in the training process (Hidayat, 2019). The coach is demanded to master MGS, so that the quality of process and training result can be improved. Being affirmed by (Freitas, Dias, and Fonseca 2012), the implementation of MGS, as an integral part of the PST, should consider the characteristics of sport and athletes' skill levels.

In accordance with the main arguments above, it is necessary to do concrete actions to develop MGS implementation program as a goal achievement strategy in the integrated process of physical, technical, and tactical skill training. Before designing the implementation of MGS program, every coach should acquire sufficient knowledge and skill about MGS and strategies to implement it in the training process. Therefore, it is important and strategic to conduct a workshop on multi-goal strategies called A Beginner Badminton Coaches Training and Education Program: A Workshop of Multi-goal strategies (BBCTEP of MGS) in relation with the mastery of badminton basic skill (BBS).

2 METHODS

2.1 Participants

20 beginner badminton coaches aged 20-29 year old participated in BBCTEP of MGS (M_{years} = 24.5; SD=1.18). All participants came from 10 badminton

schools or clubs in West Java. Beside coaches, BBCTEP of MGS also involved 40 beginner student-athletes aged 10-12 year old (M_{years}=11.5; SD = .65), consisting of 20 male student-athletes (M_{years}=11.6; SD = 1.30), and 20 female student- athletes (M_{years} = 11.12; SD = 0.56), coming from two badminton schools or clubs in Bandung. All student-athlete participants were chosen through disproportional stratified sampling technique (Johnson & Cristensen, 2012) and divided into four groups.

2.2 Measurement

2.2.1 Workshop

The result of the workshop was measured by cognitive test and affection scale assessment. Cognitive test was used to measure the level of coaches' mastery of the workshop materials on the cognitive behavioral component (Anderson and Krathwohl 2001; Näsström, 2009). The test compiled 30 multiple choice items and the result of split half reliability estimation analysis arrived in Spearman-Brown Prophecy reliability coefficient index =. 86.

The participants' affective self-interest response to the workshop was measured by two questions (Hidayat, 2016) "what do you feel when you involved in the workshop activities (pleasant, average, less pleasant, unpleasant)", and "what do you think of this workshop activity (interesting, average, less interesting, uninteresting).

2.2.2 Coaching Practical Training (CPT)

The observation of CPT was used to determine the level of skill of the BBCTEP of MGS participants in implementing MGS concept in the process of BBS training (Hidayat, 2016). The measurement indicator was based on the indicator of motor skill learning process stages, including opening activities, main training activities, and closing activities (Suherman, 2009; Hidayat, 2016; Hidayat & Sukadiyanto, 2016), and elaborated into 9 (nine) out of 14 categories of coaching behaviour in the Arizona State University Observation Instrument or ASUOI (Lacy & Darst, 1984; Claxton, 1988; Isabel, Sobrinho, Antonio, Felismina, & Michel, 2008), consisting of preinstruction, concurrent instruction, post instruction, questioning, manual manipulation, positive modelling, hustle, praise, and management category. The result of Lawshe's content validity ratio (CVR) showed content validity coefficient index (CVCI) between .60 -1.00. CVCI in total = .89 (93.7%), .81 (89.8%) for opening activities, .87 (92.1%) for main training activities,

and .96 (97%) for closing activities. According to one way ANOVA (interclass correlation coefficient / ICC) analysis technique, it was found that the total reliability coefficient index among observers =.90, .94 for opening activities, .84 for main training activity, and .95 for closing activities.

2.3 Procedure

BBCTEP of MGS consisted of workshop and CPT. Workshop was conducted in classroom learning through discussion, simulation, and role play. Meanwhile, CPT was a training activity in the field in the form of coaching practices (Vealey & Greenleaf, 2001; Weinberg & Gould, 2015; Hidayat, 2016). The procedure of BBCTEP of MGS was conducted as follows.

(1) Every participant followed workshop activities for two days to study the way of designing and developing MGS and its integration in the BBS daily training program. The materials of the study included: (a) BBS workshop analysis and the basic concepts of MGS implementation on beginner children student-athlete (day one), and (b) workshop of approaches and MGS and CPT learning structure (day two). The workshop process was conducted in four stages (Boyett & Boyett, 1985), involving experience forming (participants involved in group activities), reflection (the process of reflecting their involvement in group activities), conceptual forming (giving meaning on their involvement in group activities), and conceptual test (dialogical and multi-logical process between participants and facilitators about the concept that had been built that created a concept that might be different with the existing conceptual design.

(2) Every participant did cognitive test before workshop was begun (pre-test), at the end of the workshop (post-test 1), and after CPT (post-test 2).

(3) CPT is a coaching practice to play a role as a coach in the process of training (Hidayat 2016) with the goal to implement MGS concept in the process of BBS training. In this CPT activity, the participants were divided into four groups based on their GS type, including product goal group (G-1), process goal group (G-2), the combination of product and process goal group (G-3), and MGS group (G-4). Each group consisted of 6 (six) persons (three couples of coach) and all CPT groups received GS and BBS intervention.

(4) CPT was conducted for two days, first day for training under the coordination of facilitator, and 1 (one) last day for CPT of each group. The duration of each CPT is 130 minutes. There were 3 (three)

coach couples in each group, and every coach couple played a role as the coach and the other became observers. The first coach couple of each group performed at the first meeting, observed by 2 (two) couples of other coaches from the same group. The next turn was conducted successively until every coach couple got 2 (two) opportunities to involve in CPT.

The CVCI of CPT used Lawshe's CVR between .60-1.00, .90 (94.9%) for total CVCI, .83 (91.4%) for opening activity, .89 (94.3%) for main training activity, and .98 (99%) for closing activity. Meanwhile, from ANOVA analysis technique (ICC) was found that the total reliability coefficient index was 0.92, 0.97 for opening activity dimension, .86 for main training activity dimension, and .98 for closing activity dimension.

3 RESULTS

The success of BBCTEP of MGS is determined by the indicator of the result and product. Cognitive ability and self-interest are the representation of result indicator, while product indicator is marked by MGS applicative conceptual framework documents, including cue words as the product of fractionation-analytic BBS. Both of indicators were the result of four stages of workshop process.

(1) In the experience formation stage, every participant in each group studied the applicative MGS concepts in BBS training;
(2) In the reflection stage, every participant did reflection on all materials they learnt and wrote them down in relation to the type of GS, combined with another type of GS function, and how to apply it in the learning process;
(3) In the conceptual formation, the result of reflection of every member of group was discussed in their group to get deeper study with the reflection result of other groups so that the MGS application concepts in the BBS learning process was created;
(4) In the test of concept, every group presented their application concepts they created to obtain suggestions from facilitator and other groups so that the hypothetical applicative concept of MGS in BBS training process is created.

The result of analysis for cognitive test showed that there were changes in the mastery level of BBCTEP of MGS in every test. Participants' mastery on the post test 2 (86.40%) > post test 1 (72.50%) and pre test (58.00%), and participants' mastery on the post test 1 > pre test. The result of cognitive ability above was

strengthened by participants' response level on the process of the workshop. The response from 92% participants was happy with the process of workshop and 82% participants perceived that the workshop was interesting. Meanwhile, the result of analysis of CPT observation was found that mastery on implementing coaching skill achievement is 79, 20% in total, 84% for opening activity, 72,60% for main training activity, and 100% for closing activity.

The manifestation of workshop product indicator, in form of the concept of GS applicative strategy in relation to BBS learning, whether it is for process GS type, product GS type, dynamic GS type, or MGS type, is as follows:

a. Deciding the framework of applicative concepts, including the following steps.
    (1) Formulating movement description of each target skill/motor skill that will be learnt;
    (2) Describing the skill into the stages of movement implementation (preparation stage, implementation stage, and final movement stage);
    (3) Determining behavior target of each stage of movement practice, and deciding movement descriptions of each target behavior;
    (4) Arranging goal formulation for each target skill and sub-goal for each target behavior;
    (5) Determining training condition that will be suitable with the goal and the sub goal;
    (6) Deciding the sub-goals of specific performance based on the goal formula of each target behavior;
    (7) Creating monitoring format for goal achievement in form of training activity goal worksheet and goal attainment log (Rushal, 2009)
b. Socializing MGS applicative concepts framework to the student-athlete in form of education activity in classroom as an initial activity before manipulation program was conducted based on the structure of MGS program;
c. Deciding the level of success of goal attainment (personal and group) that is suitable with the developed worksheet;
d. Conducting manipulation check.

Another workshop product is cue words as the result of fractionation-analytic. The cue words for process goal, consisting of 13 cue keys (stage 1) and 7 cue keys (stage 2) for high service-BS, 13 cue keys (stage 1) and 11 cue keys (stage 2) for clear lob BS, while for drop shot-BS was created 13 cue keys (stage 1) and 10 cue keys (stage 2). In addition, for dynamic goal, 16 cue keys were created in stage 1 and 10 cue keys in stage 2 for high service-BS, 16 cue keys (stage

1) and13 cue keys (stage 2) for clear lob BS, and 16 cue keys (stage 1) and 13 cue keys (stage 2) for drop shot-BS.

4 DISCUSSIONS

The main goal of BBCTEP of MGS is to improve the beginner badminton coaches' knowledge, attitude, and skill in West Java related to the use of MGS integrated in the whole training process. To achieve the goal, the coaches involved in the workshop to study and to decide the materials and the way of implementing MGS in the process of BBS training for beginner badminton students-athlete aged 10-12 year old in two days. The result of cognitive test showed that BBCTEP of MGS was effective to improve the participants knowledge related to concepts and implementation strategy of MGS in the process of BBS training. In the effective aspect, the participants of the workshop perceived that the activities were interesting and pleasant.

The result of the two aspects showed that there was relevance between materials and the process of workshop with the demands and the need of the coaches in the field. From material aspect, the coaches needed to study about method and psychological skill training, especially MGS, which is still neglected until today. The substance of the materials was strengthened by the dynamic and interactive workshop providing dialogical and multi logical process among the participants, and between the facilitators. In the other words, the process of workshop had facilitated the interactive dialogue that initiates the participants' interest and joyfulness since it was designed in a dynamic, warm and full of togetherness process, that the abstract material could be more concrete and meaningful.

The result of the two aspects, strengthen by the result of CPT observation, the level of implementation achievement in every stage of the learning structure of BBCTEP of MGS was above 80%. According to the result, it can be concluded that the result of CPT observation synergize with the result of cognitive and affective aspects. It also completes and strengthens the achievement result in total. In addition, cognitive and affective aspects have been proven as conceptual-practical provision to achieve the success in implementing MGS in the process of BBS training. In general, the results of the three aspects can be conceptual-practical provision to be implemented in

the real training process and strengthen the belief on the three aspects as the triadic reciprocity that complete and strengthen each other.

The cue words as the workshop product, from theoretical perspective, all the cue words were attained based on the BBS fractionation-analytics in the form of skill analysis (high service-BS, clear lob-BS, and drop shot-BS). Pinheiro & Simon (1992) called it, "the diagnostic process of movement skills" that is described into implementation stags, target behaviour, and cue or key words. It is suitable with the characteristics of MGS that focus the athlete's attention on the key elements of motor skill. Each motor skill was analysed into stages of movement implementation, including preparation stage, implementation stage, and final stage (Pinheiro, 2000) and was set as sub-goal. Every stage was built by several target behaviors (Schmidt & Wrisberg, 2000) or critical features (Knudson & Morrison, 1996, 2002) and were set as indicators, and from every target behavior, the cue words that have function as coaching / teaching point were set and will be used by physical education teachers or coach to mark the important aspects from each part of movement conducted when giving instruction or finding out mistakes in movement that might be done by the student-athlete, and to be used by the athlete as the self-talk cue. Figure 1 presents the BBS applicative concept construction framework based on GS that signed the process of BBS fractionation analytics construction until the cues or key words are established.

Every key word has a function to mark the movement task that has to be practiced by the student-athlete. Therefore, every cue key signed the description of the movement task that has to be understood before practicing the movement. For that reason, before conducting fractionation-analytics process, the description of target skill and behaviour that will be analysed are formulated and developed. For example, "high-straight" is one of the keywords from target behaviour in clear lob-BS that has a function as the description signing the movement task that the shuttlecock and the racket in the clear lob-BS should be in the "up straight" and happen in the "highest" point. Another example, "see the shuttlecock" as the cue key of the movement target behaviour on the direction to the shuttlecock in the clear lob and drop shot-BS that has a function to sign the movement task description that when they move to the direction of the shuttlecock. The look should be at the direction where the shuttlecock comes. The similar meaning is also used for other cue keys.
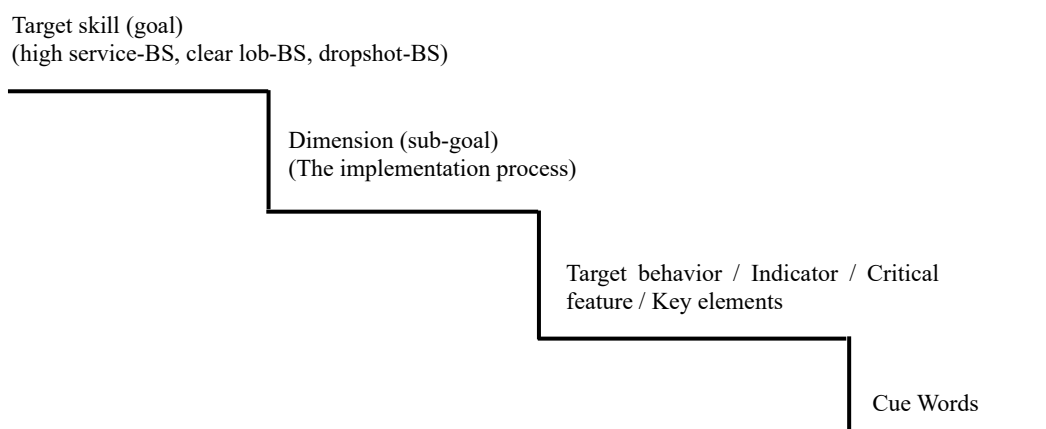
Target skill (goal)
(high service-BS, clear lob-BS, dropshot-BS)

Dimension (sub-goal)
(The implementation process)

Target behavior / Indicator / Critical feature / Key elements

Cue Words

Figure 1: The Applicative concept framework of BBS fractionation-analytics construction process based on GS (Hidayat, 2016)

5 CONCLUSIONS

Based on the cognition and affection responses, it concluded that the coaches perceived that their involvement in BBCTEP of MGS is beneficial. The effective resulted on cognitive aspect, strengthened by affective response and skills in implementing MGS in the process of training. As a model or hypothetical product, MGS program is a mental training strategy or psychological skills that can be used for beginner student-athlete aged 10-12 year old. The application stages can be done as follows: (1) developing framework of applicative concept and integrating it into the whole structure of training process plan, (2) communicating MGS program to the student-athlete that is suitable with the developed applicative framework, (3) determining the level of success in achieving the goals (personal and group), and (4) conducting manipulation check related to the level of understanding on the MGS and the difficulty level of the achievement.

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