

# Innovation in Traditional Games: A Case Study of Trainee Teachers' Learning Experiences

Malathi Balakrishnan, Cheng Lee Ooi, Chander Vengadasalam

**Abstract**—The purpose of this study is to explore a case study of trainee teachers' learning experience on innovating traditional games during the traditional game carnival. It explores issues arising from multiple case studies of trainee teachers learning experiences in innovating traditional games. A qualitative methodology was adopted through observations, semi-structured interviews and reflective journals' content analysis of trainee teachers' learning experiences creating and implementing innovative traditional games. Twelve groups of 36 trainee teachers who registered for Sports and Physical Education Management Course were the participants for this research during the traditional game carnival. Semi structured interviews were administrated after the trainee teachers learning experiences in creating innovative traditional games. Reflective journals were collected after carnival day and the content analyzed. Inductive data analysis was used to evaluate various data sources. All the collected data were then evaluated through the Nvivo data analysis process. Inductive reasoning was interpreted based on the Self Determination Theory (SDT). The findings showed that the trainee teachers had positive game participation experiences, game knowledge about traditional games and positive motivation to innovate the game. The data also revealed the influence of themes like cultural significance and creativity. It can be concluded from the findings that the organized game carnival, as a requirement of course work by the Institute of Teacher Training Malaysia, was able to enhance teacher trainers' innovative thinking skills. The SDT, as a multidimensional approach to motivation, was utilized. Therefore, teacher trainers may have more learning experiences using the SDT.

**Keywords**—Learning experiences, innovation, traditional games, trainee teachers.

## I. INTRODUCTION

**T**RADITIONAL games are an indigenous, regional or national pattern of culture of physical movement related to certain bodily traditions as a part of human heritage. Regardless of their geographical locations, socio-cultural status, and despite political influences, they are passed from one generation to the next by physical activities such as everyday working activities, local festivals and national tournaments [1].

Malaysia is rich with multi-cultural traditional games. These traditional games are usually played during free or leisure time. Traditional games are also popular among people who live in rural areas. Our ancestors played these traditional games since they were young. Nowadays, children are not

playing most of the traditional games anymore, as they are more attracted to playing online computer games. However, some of the children who live in rural areas are still interested in playing traditional games. The most popular traditional games played by children are *congkak*, *wau*, *gasing*, *batu seremban*, *kabbadi*, *sumpit*, among others. There is no doubt that traditional games are one of the cultural heritages that is invaluable and irreplaceable as a symbol of our custom, culture, and identity of one nation.

Traditional Games are the 'carrier' of universal, social values and symbolic functions, which are essential to the educational dimension of physical culture and also the inherited living arts, as well as enhancing the collective well-being [2]. The knowledge we acquire from Traditional Games are rich resources for the present and for the future. They are part of culture, history, goals, people, strategy and philosophy. Traditional Games are important because they help to enhance teamwork, co-operation, managing a challenge, setting and achieving goals, building character, provide an outlet for expression and allowing for the improvement of performance. They create fun and enjoyment and encourage socialization among people [3].

Ever changing social, political, and market interests critically affect traditional games. Their popularity as leisure activities are increasingly substituted by computer games [4]. How are these traditional games perceived in modern culture? As traditional games reflect national sociocultural, the Ministry of Education of Malaysia has integrated traditional games into physical education curriculum. Innovation educational has become an international curricula trend, such as in Greece's educational system [5]. Inquiry based learning, interdisciplinary teaching-collaboration, differentiated learning, and cooperative learning is the focused creative student centered pedagogies [5]. How will changes in the curriculum impact on trainee teachers' creative and innovative thinking skills? In the 21<sup>st</sup> century, the ability to innovate is one of the key capabilities of the knowledge economy. Therefore, education intuitions are required to cultivate trainee teachers' creativity to innovate. Innovation is not only a creative art, it is also an artifact or a process of building students learning outcome through experimental initiative and responsibility [5], [6]. Students develop their creativity abilities in going through the processes of designing and creating things, learning in a social context on a concrete task [7]. Feedback provision by peers enhances the students' reflective practice. Reflective practices are an important learning process for teacher trainers because it bridges

Malathi Balakrishnan, PhD, is the Head of Department, Department of Physical Education and Health, Technical Education Campus, Nilai, Institute of Teacher Education Malaysia (e-mail: malathibalakrishnan@ymail.com).

Cheng Lee Ooi and Chander Vengadasalam are a lecturer from Department of Physical Education and Health, Technical Education Campus, Nilai, Institute of Teacher Education Malaysia (e-mail: chenglee\_ooi@yahoo.com, chandervengadasalam@yahoo.com).

conceptual and practical experiential learning experiences [8]-[11].

According to Schon [12], many schools and departments of education and professional development programs adapted on this concept introduced reflective practices. It is a beneficial process for both pre-service and in-service teachers, as well as for sports coaches [10], [12]. It enhances reflective and experiential learning experience by changing learner's cognition, emotion, and practice [8], [10], [11]. It enables the application of contextual relevant knowledge and fosters positive learning atmosphere, and develops growth and independence commitment [13]. The experiential learning process emphasizes on learning experiences by integrating theoretical and practical learning knowledge [11]. It provides interactive practices and a learning opportunity for oneself and with others. However, the demand for available time, the challenge on the cognition and emotion of the practitioner, as well as available mentors, are the essence for reflective practice [13]. If the innovation educators are supporting the reflection processes and structures, it complements teaching pedagogies. Autonomous or self-determined motivation has been reported to affect teachers' involvement in and implementations of educational innovations [5].

SDT focuses on one's participative motive in an activity as either intrinsic, extrinsic or amotivation [14], [15]. To date, it has evolved from intrinsic-extrinsic motivation to autonomous-controlled motivation [16]. Firstly, Intrinsic motivation posits that a participant holds on highest internalization (highest autonomous) of enjoyment and pleasure without external reward expectation upon engaging himself in an activity. Secondly, extrinsic motivation relies on the contingent outcomes that could be derived from a task. It is ranged from high to low continuum of internalization (high autonomous to high controlling motives) by lying across integrated, identified, interjected, and external regulations of extrinsic motivation. The first two forms of extrinsic motivation, integrated and identified regulations relate to autonomous motives that coordinate behavior with psychological needs. Integrated regulation refers to a person fully incorporating their extrinsic action, values and needs to achieve autonomous functioning and psychological stability. In identified regulation, a person's extrinsic behavior is supported by self-autonomy in identifying and valuing any engagement. The next two forms of extrinsic motivation, interjected and external regulations are controlling forms of motivation, which pressures and contingencies control the self. A person with interjected motivation highly regards self-esteem and pride. When achieving a target, he will reward himself; while in facing failure, he will punish himself with shame and guilt. On the other hand, an external regulated person's action is controlled by external reward as reinforcement for involvement in an activity. Finally, amotivation refers to a person has no interest to take on any task due to negative experiences and consequences that encourages passive behaviour [15].

This study explores trainee teachers' learning experiences on traditional games innovation. Research has indicated that

teaching professional is critically influenced by the pre-service period's learning experience. When trainee teachers were involved in an innovating traditional game, it can be explained of their SDT as cognitive understanding becoming deeper; increased behavior of participation in a game, which can improve their attitude. The motivational variable the SDT could predict a participant's cognitive and affective experiences while going through the learning experience of innovating traditional games. Trainee teachers are motivated by interest, enjoyment, satisfaction and the challenge of an activity through a deep involvement in the activity [17]. Another researcher supported the statement that participants will be interested when they are successful in doing certain activities and continue to participate [18]. Research suggests more physical activity involvement patterns imply that participants are more attracted to physical activity overall [19], [20].

The benefit of utilizing the game connection system, trainees teachers are able to promote the transfer of previously learned information about one game situation to the new game learning by organizing the similarities and differences of the games [21]-[25]. This games situation allows for a richer understanding of the decisions made during games that promotes the transfer of previously learned information or skills and provides a logical progression for tactical concepts to be presented.

Malaysia is rich with multi-cultural traditional games. However, limited research has investigated the evolvement of these traditional games for the new generation, especially for trainee teachers, and how the innovation of traditional games impacts on trainee teachers' learning experiences. Therefore, this study explores the case study of trainee teachers' learning experiences and motivation on innovating traditional games during traditional game carnival. It explores issues arising from a case study of trainee teachers learning experiences creating and innovating traditional games.

## II. METHOD

The qualitative research method was adopted for this study. The qualitative data were intending to draw insights from the observational checklist, focus group interview data and reflective journal writing of trainee teachers' learning experiences of innovating traditional game. Twelve groups of trainee teachers were observed for game participation during the traditional game carnival. Focus group interviews were conducted after the games carnival using iPods. Participation in the focus group interview was voluntary. The focus groups interviews were semi-structured and guided by pre-prepared questions and remained open for additional questions that arose. To protect the trainee teachers' identity pseudonyms and identification numbers were assigned for data analyses. Audio recordings of the focus groups were transcribed verbatim and were then distributed to each author. A general inductive approach of qualitative data analysis was used to evaluate all the various sources of data [26], as the data "makes sense of field data," according to Lincoln and Guba [27, p.202]. Various data were the analyzed using six stages of

thematic analysis [28]: Collect data, prepare data for analysis, read through data, code the data, code the text for description and code the text for themes. All the collected data were analyzed with the Nvivo data analyses process. All the authors then met to discuss their individual coding decisions and consensus was reached. The data presented here is organized around the following themes: Game participation, game knowledge, cultural significance, innovative thinking skill and motivation.

### III. RESULT

A general inductive qualitative data analysis approach was employed in this study to collect sources from an observational checklist, focus group interview and reflective journal. Semi-structured interviews were administrated after the game carnival on three focus groups and 10 trainee teachers' reflective journals were collected for content analysis. All these data were systematically prepared for analysis. All the authors read through all the collected data. The collected data were then analyzed using Nvivo. Data were coded for free notes and tree notes. Coded free notes and tree noted were highlighted for text description. Then all the free notes and tree notes was systematically coded for themes.

TABLE I  
 THEMES: TEACHER TRAINERS' LEARNING EXPERIENCES

THEMES	FREE NOTES
Game knowledge	"The knowledge of traditional games will be used to innovate more traditional games in future" (Int/FG/L36) "I've learned and gained various knowledge and information upon innovating and conducting traditional games" (Int/JR1/L35) "By creating this innovative game, the experience can be used in my teaching experience in school later" (Int/FG2/L74)
Motivation	"It triggered a spirit of innovation in me to because as a teacher we must innovate" (Int/FG2/L78) "Shoe-shoe gula batu, We created the name as sweets so as to attract students interested in this game" (Int/FG2/L69)
Innovative thinking skill	"I got a lot of ideas innovating game" (Int/FG1/L46) "Creating Innovative traditional game, I believe that I can attract young children" "We manage to brainstorm ideas" (Int/FG3/L34) "We innovate, did hybrid game where we mixed gully with mainstream modern game with Petanque" (Int/FG1/L57) "We learned that there are elements from different culture" (Internal/FG2)
Cultural Significance	"I learned a lot about traditional games in Malaysia...I learned more specifically about the tradition and cultures of few ethics in Borneo" (Int/FG3/S)
Creativity	"I learned to become more creative" (Int/FG3/L7) By organizing this traditional game, I learned that making this activity make me able to think creatively and do critical thinking" (Int/FG3/L21)

Qualitative data were analyzed as shown in Table I. The data revealed some pattern of teacher trainers learning experiences. Trainee teachers were more motivated to use the innovative traditional game in the carnival. Some of the teacher trainers also described that the games that they innovate were able to leave an impact on their learning experiences, including innovation, where students will be able to create, analyze and solve game strategies. They also described that by providing strategic activities in games, it will

create challenging experiences for learners in problem solving situations related to their subject matter.

### IV. DISCUSSION

In conclusion trainee teachers reported that their participation in the innovative traditional games carnival was a positive one. This finding supports the positive experiences of the trainee teachers in innovating traditional game knowledge [2], [5]. The experience of the carnival itself was much of an enjoyment for the trainee teachers. These trainee teachers introduced innovation in these games by playing with their friends and by sharing their culture. Another aspect that has been highlighted during the group discussions was the opportunity for enhancement creating and modifying traditional game for the new generation. The findings indicated that the learning is not just about the cultural aspect of the games, but also about creativity participating cooperatively and respecting one another [29]-[31].

The qualitative data also showed some themes like cultural significant. The innovation of traditional games united cross-culturally. It may look different but the inner structure of the game is often familiar and easy to understand as the trainee teachers also went through several game experiences. Few traditional games were introduced to the trainee teachers during their physical education interaction for example *batu seremban*, *tarik upin*, *pukul berapa datuk harimau* and so on. Trainee teachers were asked to brainstorm and modify the chosen tradition game for their competition. They were introduced to the cultural significance of the games at school so that they were able to see the contribution of traditional games to promote cultural awareness in schools. During the innovation process, an atmosphere of cooperation competition was fostered among trainee teachers to value the cultural significance. Evidence that supports the value and succeeded experiences of the innovation initiative was collected during the carnival. These experiences will support teacher trainers to apply the knowledge of innovation in traditional games competition in school later. The fact that these trainee teachers are able to recall their respective cultural games, passed down for generations, and play their part in sharing with the community at this present moment is vital. The findings also supported that they were happy and felt good to learn about their culture, as indicated by "We learned that there are elements from different cultures," and "I felt proud because I was learning what my ancestors used to play."

Promoting cooperation among trainee teachers has reinforced one of the key roles that traditional games played in communities. Also, as the games are new to most trainee teachers, it allows room for them to explore a different experience and develop innovated skills and strategical thinking. It also requires that the trainee teachers apply teamwork, motivate each other and cooperate, as well as respect one another, not only from a cultural perspective. All of these data were triangulated from focus group interview transcriptions, observational checklist and reflection journal writings. The findings of the study supported that participating

in these games will enhance the trainee teachers' motivation [32]-[34].

The findings from this study also add to the knowledge that the reflective practices helped the trainee teachers' understandings of how their learning experience of innovation will be meaningful in the future. The trainee teachers reflected on their learning experiences as, "By creating this innovative game, the experience can be used in my teaching in the future." This journal writing practice provided a great opportunity for trainee teachers to describe what they had learnt and engaged themselves by participating in these games [35], [36]. Moreover, learning innovation in traditional games will enhance trainee teachers' creativity.

#### V.CONCLUSION

The study explored trainee teachers' learning experiences of innovating traditional a few games interactions, as well as during the carnival. It can be concluded that this program, which was organized by the Institute of Teacher Education, Technical Education Campus, was able to enhance trainee teachers' positive learning experiences in innovating traditional games. Trainee teachers described that they have learned how to innovate and that it is possible to learn creativity through these activities, as discussed by researchers [37]. Learners are likely to remember and understand what they have learnt because of their direct involvement in solving the problems while creating and the playing games [22], [27], [38]. Besides that, the presence of the elements of creativity in the process makes the art of learning more meaningful in the Teacher Training Institute.

#### ACKNOWLEDGMENT

The authors would like to acknowledge Dr. Azian T.S. Abdullah the Rector of Institute of Teacher Education Malaysia, Ministry of Education Malaysia and Dr. Mohamad Nor B. Mohamad Taib the Director of Technical Education Campus, Institute of Teacher Education Malaysia, Ministry of Education for allowing us to carry out and publish this research.

#### REFERENCES

- [1] Bronikowska, M. (2013). *TAFISA and UNESCO Joint Effort for Building Cultural Capital Through Traditional Sports*. An analysis of the 5<sup>th</sup> world sport for all games. *Studia Humanistyczne AGH*, Vol 13, No1.
- [2] Jaouen, G. (2003). *Educational Stakes for The 21<sup>st</sup> Century Society Trough Inheritance, Diffusion, And Transmission of Traditional Games* (Preface). *Studies in Physical Culture and Tourism*, Vol. 10, No.1, 11-13.
- [3] Egan, S. (2003). *An Holistic Analysis of the Educational Components of traditional Games*, *Studies in Physical Culture and Tourism*, Vol.10, No.,39-49.
- [4] Connolly, T. M., Boyle, E. A., MacArthur, E., Hainey, T., & Boyle, J. M. (2012). A systematic literature review of empirical evidence on computer games and serious games. *Computers & Education*, 59(2), 66-686.
- [5] Gorozidis, G., & Papaioannou, A. G. (2014). Teachers' motivation to participate in training and to implement innovations. *Teaching and Teacher Education*, 39, 1-11.
- [6] Resnick, M. (2008). Falling in love with Seymour's ideas. *American Educational Research Association (AERA) annual conference*. New

York: AERA. Accessed on November 23, 2009, <http://web.media.mit.edu/~mres/papers/AERA-seymour-final.pdf>.

- [7] Robinson, K. (2001). *Out of Our Minds*. Chichester: Capstone.
- [8] Jarvis, P. (2009). Learning to be a Person in Society. In K. Illeris (Eds.), *Contemporary theories of learning: Learning theorists ... in their own words* (pp. 21-34). London: Routledge.
- [9] Kolb, D. (1984). *Experiential Learning*. Englewood Cliffs, NJ: Prentice Hall.
- [10] Leduc, M., Culver, D. M., & Werthner, P. (2012). Following a coach education programme: Coaches' perceptions and reported actions. *Sports Coaching Review*, 1(2), 135-150.
- [11] Moon, J. A. (2004). *A Handbook of Reflective and Experiential Learning: Theory and Practice*. London: Routledge Falmer.
- [12] Schon, D.A. (1991). *Educating the reflective practitioner: Towards a new design for teaching and learning in the professions*. San Francisco: Jossey-Bass.
- [13] Peel, J., Cropley, B., Hanton, S., & Fleming, S. (2013). Learning through reflection: Values, conflicts, and role interactions of a youth sport coach. *Reflective Practice*, 14(6), 729-742.
- [14] Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York, NY: Plenum.
- [15] Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: an organismic dialectica perspective. In E. L. Deci, & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3-33). Rochester, NY: University of Rochester Press.
- [16] Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology*, 49, 14-23. DOI: 10.1037/0708-5591.49.1.14. [https://selfdeterminationtheory.org/SDT/documents/2008\\_DeciRyan\\_Ca\\_nPsy\\_Eng.pdf](https://selfdeterminationtheory.org/SDT/documents/2008_DeciRyan_Ca_nPsy_Eng.pdf)
- [17] Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227-268.
- [18] Ishee, J. H. (2004). Are physical education classes encouraging students to be physically active? *Journal of Physical Education, Recreation, and Dance*, 78.
- [19] Brustad, R. J. (1991). Children's perception on exercise and physical activity: Measurement issues and concerns. *Journal of School Health*, 61, 228-230.
- [20] Griffin, M. R., & Maina, M. P. (2002). Focus on interest diversity in high school physical education. *Strategies*, 15(6), 11-12.
- [21] Brooker, R., Kirk, D., Braiuca, S., & Bransgrove, A. (2000). Implementing a game sense approach to teaching year 8 basketball. *European Education Review*, 6 (1), 7-26.
- [22] Chandler, T. J. L. (1996). Reflection and further question (teaching games for understanding method). *Journal of Physical Education, Recreation, and Dance*, 67(4), 49-53.
- [23] Jones, C., & Farrow, D. (1999). Transfer of strategic knowledge: A test of games classification curriculum model. *Bulletin of Physical Education*, 35(2), 103-124.
- [24] Mitchell, S. A., & Oslin, J. L. (1999a). An investigation of tactical transfer in net games. *European Journal of Physical Education*, 4, 162-172.
- [25] Rink, J. E. (2010). TGfU: Celebrations and cautions. In J. Butler & L. Griffin (Eds.), *Teaching Games for Understanding: Moving globally* (pp. 33-48). Champaign, IL: Human Kinetics.
- [26] Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, 27(2), 237-246.
- [27] Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. California: Sage.
- [28] Crosswell, j. W. (2012). *Educational Research Design: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. (4<sup>th</sup> Ed.) Boston, MA: Pearson Education, Inc.
- [29] Mitchell, S. A., & Chandler, T. J. L. (1992). Motivating students for learning in gymnasium: The role of perception and meaning. *The Physical Educator*, 50(3), 120-125.
- [30] Piipari, S., Watt, A., Jaakkola, T., Liukkonen, J., & Nurmi, J. E. (2009). Relationship between physical education students' motivational profiles, enjoyment, state anxiety, and self-reported physical activity. *Journal of Sport Science and Medicine*, 8, 327-336.
- [31] Holt, N., Streat, W., & Begoechea, E. G. (2002). Expanding the teaching games for understanding model: New avenues for future research and practice. *Journal of Physical Education*, 21(2), 162-177.

- [32] Roberts, G. C., Spink, K. S., & Pemberton, C. L. (1999). *Learning experiences in sport psychology*. Champaign, IL: Human Kinetics.
- [33] Blanchard, C. M., Maska, L., Vallerand, R. J., Sablonnie, R., & Provencher, P. (2007). Reciprocal relationships between contextual and situational motivation in a sport setting. *Psychology of Sport and Exercise*, 8, 854-873.
- [34] Moreno, J. A., Gonzalez, D., Martin, J., & Cervello, E. (2010). Motivation and performance in physical education: An experimental test. *Journal of Sports Science & Medicine*, 9, 79-85.
- [35] Balakrishnan, M. (2009). *The effects of teaching games for understanding on students learning outcome*. Unpublished PhD thesis. Kuala Lumpur University of Malaya.
- [36] Balakrishnan, M., Rengasamy, S., Aman, M. (2011). 'Effect of Teaching Games for Understanding Approach on Students- Cognitive Learning Outcome'. *World Academy of Science, Engineering and Technology, International Science Index* 53, 5(5), 808 – 810.
- [37] Pickard, A., & Maude, P. (2014). *Teaching Physical Education Creatively*. London: Routledge
- [38] Balakrishnan, M., Nadarajah, G., Rahim, N., Mei, A. (2015). 'Teacher Trainers' Motivation in Transformation of Teaching and Learning: The Fun Way Approach'. *World Academy of Science, Engineering and Technology, International Science Index* 108, *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*, 9(12), 3993 - 3996.