Mindfulness, Embodied Knowledge and Physical Education

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I. Research background: Two interlinked thoughts on practice and cognition

Mindfulness, according to the trendy definition, is a kind of body and mind practice method influenced by oriental Buddhist thinking. Due to its benefit, mindfulness practice is used from religions practice to self-cultivation and psychotherapy and even athletes' training. This method emphasizes on the practice focused on mind-body training via body and physical movement and its benefit, which makes me attempt to apply mindfulness method to physical education in schools. However, what is mindfulness? What kind of context does oriental Buddhism discuss mindfulness and the practice of mindfulness? In addition, what is the contemporary interpretation of mindfulness? What is the difference between contemporary traditional Buddhism interpretation of mindfulness?

With a further reading of research text and the understanding of how western philosophy has adapted Buddhist philosophy and how the mindfulness concept that they have applied influences the revolution of traditional cognition viewpoint produced by cognition science, we formulate the concept of

the embodied cognition. From the perspective of this kind of embodied knowledge, how the physical position has shifted? What kind of opportunity does the task of body awareness bring to the cognition concept? Moreover, what can the practical exercise of mindfulness add to the simple body awareness?

What is more, with the inspiration of embodied knowledge, I turn to the practical epistemic question of physical education in schools. The physical education contains both theoretical and practical knowledge. With the three goals of cognitive domain and affective domain and psychomotor domain (Bloom, 1956), the teacher plans the teaching content. The whole teaching process is brought together by both the teacher and the students. In the teaching context, the students learn in order to fulfill the goals while embodying the knowledge. As a result, my research interest focuses on how to examine the knowledge in physical education context from embodied cognition perspective.

This research paper proceeds logically as following: First, I discuss the definition and application of mindfulness in the traditional Buddhist sense and also contemporary context. Secondly, I discuss the characterization of

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embodied cognition and how body is situated in the cognition. Thirdly, I discuss the mindfulness practice. With the idea of role shift of the body, I indicate that body awareness practice is benefit for cognition. The mindfulness provides the response towards the world for people who are in the state of body awareness. Finally, I reexamine the teaching of physical education from the perspective of embodied cognition knowledge and mindfulness practice.

II. A question regarding what is mindfulness

Mindfulness is both a philosophical idea and a practice method. As a philosophical idea, it roots in oriental Buddhism. With a little western twist and interpretation, it shows one of the many different perspectives as well. What is more, as a mind-body practice method, mindfulness originally means meditation. However, they incorporate mind-body exercise technique from different concepts and names. They are all inspired by Buddhist teachings.

A. The philosophy of mindfulness

1. The traditional definition of mindfulness

Mindfulness is a type of Buddhist practice approaches which connects with the the Buddhist philosophy. Mindfulness is named "Sati" in Pali, and "Smṛti" in Sanskrit. After his own awakening, Buddha indicates the approach of truth. The basic concept is four noble truths.

The truth of suffering (苦 : dukkha) : All life is suffering

The truth of the cause of suffering (集 : samudaya) : Suffering is due to desire

The truth of the end of suffering (滅 : nirhodha) : The cure is letting go

The truth of the path that frees us from suffering (道 : magga) : Walk the Eightfold Path. (星雲, 2001, pp.7-9)

The method to achieve four noble truths is through the eightfold path: (Pali: Ariya aṭṭhaṅgiko maggo, Sanskrit: Ārya aṣṭāṅga mārgaḥ) There are eight ways and approaches to achieve the highest ideal nirvana:

- (1) Right view: The right insight.
- (2) Right resolve: The right goal.
- (3) Right speech: non judgement.
- (4) Right action: The right action which shows the thoughts of awakening.
- (5) Right livelihood: The way of living that is not harmful to oneself and others.
- (6) Right effort: The core of practice. It is achieved through rightful effort and:
 - a. for the sake of the non-arising of evil, unskillful qualities that have not yet arisen...
 - b. for the sake of the abandoning of evil, unskillful qualities that have arisen...
 - c. for the sake of the arising of skillful qualities that have not yet arisen...(and)
 - d. for the maintenance, non-confusion, increase, plenitude, development, and culmination of skillful qualities that have arise.
- (7) Right mindfulness: Awakening.
- (8) Right concentration: The perfect insightfulness. (星雲, 2001, pp.9-10)

2. The contemporary definition of mindfulness

The traditional Buddhist practice still goes on, however, the idea of mindfulness has a new and contemporary twist in the western countries.

The term Mindfulness becomes popular in the western due to the Mindfulness-based therapy (MBT). The English term of mindfulness is rooted in mindfulness-based stress reduction (MBSR), MBSR based on Buddhist practice and founded by Jon Kabat-Zinn. Kabat-Zinn said: "*Mindfulness means paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally.*" (Kabat-Zinn, 2009, p.14) The therapy combines mindfulness meditation and body awareness (body scan) and yoga to help people to achieve mindfulness.

Most of contemporary psychology researches' idea of mindfulness are based on Jon Kabat-Zinn's MBSR and also his definition of mindfulness. Mindfulness meditation is a part of Buddhist tradition and also that of empirical psychology. Buddhist approach considers mindfulness as one of the methods to achieve nirvana. Apart from mindfulness, there are other requirements to meet. By contrast, mindfulness in the western idea is a method to keep mind and body healthy. Mindfulness is also considered as psychological process and a kind of awakening.

B. The contemporary mindfulness as a method and its application

1. Therapeutic method

Since the 1970s, clinical psychology and

psychiatry have developed a number of therapeutic applications based on mindfulness for helping people who are experiencing a variety of psychological conditions. (1) Formal mindfulness, often referred to as meditation, is the practice of sustaining attention on an object (body, breath or sensations), or whatever arises in each moment (called choiceless awareness). (2) Informal mindfulness practice is the application of mindful attention in everyday life. (3) Nonmeditation-based exercises are specifically used in dialectical behavior therapy (DBT, Dimeff, & Linehan, 2001) and in acceptance and commitment therapy (ACT, Hayes, Strosahl, & Wilson, 1999). *Therapists and therapist trainers could use some of these exercise to cultivate mindfulness for their therapeutic relationships.* (Hick, 2008, p.6)

2. Non-therapeutic method

The religious Buddhist practice method is still very popular. In addition, there are many non-therapeutic methods which are similar to psychotherapeutic methods. However, the purpose is not to undergo therapy but to achieve self cultivation so to reach mind-body balance or to improve one's life. These methods are: (1) Perceiving physical senses, for example, having a raisin and rice and feel the change of flavors. (2) Physical exercise, for instance, perceiving the change of breathing and body temperature and muscles while one goes walking and jogging. (3) By sport, for example, zen tennis. (Parent & Scanlon, 2015)

In addition, the diversity of practice method can be traditional and also contemporary as well as psychological-

oriented and physical-oriented. The other oriental philosophy includes: Qi and inaction in Taoism and Japanese spirit of Dou.

C. The philosophical common ground

As a philosophical concept, mindfulness originated in oriental Buddhism. The western application and interpretation adds a different element to this concept. Mindfulness is a mind-body practice method which originally means meditation. It also combines other mind-body practice techniques. What they have in common lies in ontology and mind-body concept in mind-body dualism. From these three recent bestsellers of *"The Body Keeps the Score: Mind, Brain and Body in the Transformation of Trauma"* (Van Der Kolk, 2015), *"Mind: A Journey to the Heart of Being Human"* (Siegel, 2016), *How the Body Knows Its Mind: The Surprising Power of the Physical Environment to Influence How You Think and Feel*" (Beilock, 2017), we can argue that Taiwanese is interested in this particular topic. I argue that more and more empirical and scientific research shows the interaction between body and mind. Through self sense and awareness of the surrounding and focusing on the moment, it invites a non-traditional epistemology. Finally, from the perspective of axiology, we keep the non-judgmental attitude to confront senses and emotions inspired by awareness.

III. Embodied knowledge

As a practice, contemporary mindfulness has been widely applied to psychotherapy and exercise. As a concept, mindfulness inspires

embodied cognition of epistemic science. The philosophical background of embodied cognition comes from western and oriental philosophy. As far as western philosophy is concerned, what is central to mindfulness is existential phenomenology of Heidegger, Husserl and Merleau-Ponty. Regarding oriental philosophy, mindfulness of Buddhism is a practice method of embodiment.

Francisco Varela, Evan Thompson and Eleanor Rosch published *"The Embodied Mind: Cognitive Science and Human Experience"* in 1991.

An ambitious synthesis of ideas from phenomenology, cognitive science, evolutionary biology, Buddhist philosophy and psychology, it attempted to articulate a new research programme: an enactive cognitive science, that would bridge the gap between the empirical study of the mind and the disciplined reflection on our lived experience that characterizes phenomenological and Buddhist practices. (Ward, Silverman, and Villalobos, 2017, p.365)

Enactive cognition claims that our environment is one which we selectively create through our capacities to interact with the world. Enactive" is a concept introduced by Varela et al. in this classic work. They used the term to emphasis: cognition is based on the history of diversity of the actions carried out in being in the world. It is not a pre-given mind for pre-given representation of the world. Cognitive state are "found" in the continued activities in which we engage. (Krein, K. & Ilundáin-Agurruza, J. ,2017,p.327) According to the meaning of "enactive",

Varela and others believe that knowledge depends on our body, our language and our social history – in short, our embodiment – is inseparable in being the world. Knowledge is not stored in the mind, but in the world's interaction activities, the cognition is situated in the world, the cognition and the world are intertwined in the process with each other.

Embodied cognition is the cognition of the body including the brain. The position of the mind and the body is reversed, and the body becomes the key in the cognitive process.

IV. Body, body awareness and mindfulness

From the above discussion we found:

1. The body is a lived body

Cognition can be realized in an embodied way, because the body is no longer a general physics object, but a biological organism (from the third person perspective), which is in contact with the environment and a lived body that can complete various kinds of body movements. It is the body in social culture. (the first person perspective) (perceptual phenomenology)

The body and its sensory movement patterns influence and shape all cognitive activities of humans.

The physical properties of the nervous system, the structure of the brain and body, the pattern of the sensory motor system, the structure of the senses, the stimulation of the environment to the body, the transmission of neurotransmitters, etc., all the layers of the body shape the cognition or the mind, thus

enabling body and mind become a co-dependent symbiotic body.

The body enhances the importance of the body and its acting in cognitive interpretation with a pivotal and decisive meaning in the shaping of cognition. Therefore, we believe that body awareness plays an important role.

2. Body awareness

The body, with its interaction with the world and exercise produces the perception of things in which body plays a key role. Improving physical awareness becomes an important task in cognition process.

Body awareness is the sense that we have of our own bodies. It is an understanding of the parts that make up one's body, where they are located, how they feel, and even what they can do. Body awareness develops as we grow and mature. (Dana Dance-Schissel, 2017) When one aware his body means aware: (1) The body itself: It contains the anatomy of the body, the way the body moves, the feeling of the body, and the physical activity experience. (2) Physical situation: including the self and the other, and the external environment in which the self is situated.

3. Mindfulness

Mindfulness practice usually starts from being awareness of the body: awareness of breathing, tension and relaxation of muscles and body parts and movements, etc. In awareness, all senses, feelings, emotions, and external stimuli are placed in "consciousness". When everything is perceived, there is a chance to choose, and to change. Learning

becomes the interaction between the body and the mind which carries out in self and the external environment

Mindfulness exercises improve people's sensitivity to themselves and the environment, and they feel that the attitude of the present and the non-judgment makes people keenly "touch" the heart and confront feeling more delicately. In addition to body awareness, the practice of mindfulness brings more meanings to this dynamic operation. In the process of learning movement, the attitude of the body is not evaluated, the teacher gives phenomenological feedback, and the students do not limit their own exploration. (to judge me by my doing, this is wrong, not good, not standard) but to do (doing), can not do (rather than wrong doing) through the body clues and cognitive clues to adjust, and then keep trying. It allows teachers and students to have free will, but also to bring greater possibilities for learning.

V. Reflection of P. E. teaching from the perspective of embodied cognition and mindfulness practice

In the context of P. E., physical activity involves a huge amount of experiences which are intense and rapid and unpredictable. Knowledge is the interwoven connection among cognitive domain, psychomotor domain and affective domain. It arises through a dynamic interaction between the teacher & the students and the context of class.

As a part of education, physical education has its own purpose. A high-quality physical education emphasizes students' health, thought, feeling and socialization, as well as

vitality. In addition, healthy children emphasize healthy fitness, and children with thoughts and socialization emphasize the development of cognition, feeling and self-generation, motivation and competitiveness in sports competitions. Vibrant children emphasize the development of motor skills and motor skills to develop students' athletic ability. (Cleland Donnelly, Frances, Mueller, Suzanne, and Gallahue, David, 2016)

The goal is not the entirely same nor conflict with the practice of mindfulness in the Buddhist tradition to reach the nirvana realm and the purpose of the modern method of mindfulness (the purpose of treatment, cultivation becomes a more united person). The body, with its interaction with the world and exercise produces the perception of things in which body plays a key role. Improving body awareness becomes an important task in cognition process. As a result, the body awareness becomes crucial, and the practice of mindful awareness brings a different reflection and enriches the content of physical education.

Through body awareness practice, the students will be able to learn to use knowledge wisely and to understand individual physical condition and psychological response and the habits of human communication.

As with mindfulness practice that can maintain a sense of be aware of the present while maintaining physical activity. Students will be able to learn living knowledge, and understand their physical condition and psychological reactions and habits of interpersonal communication, and be able to carry out non-judgment attitude. They can make choices according to free will.

VI. Conclusion

P.E. is about cultivating the students' physical talents; but clearly in this case this is too narrow a conception. Mindfulness brings together the mind-body connection (as in shin – heart-mind) and emphasizes the present moment and being non-judgmental (about whether oneself or one's partner/s are doing the movements right, for example). Alongside an enactive stance which also brings together the cognitive, psychomotor, and affective domains, brings P.E. to its fullest expression: the teacher and the students, in the context of the class dynamically interact and take advantage of in-the-moment intense, interactive and unpredictable experiences as learning opportunities. The social context is crucial in this process, students relate psychophysically to their environment in a holistic fashion with lessons that can be applied well beyond the wall of the classroom. In short, the triad of mindfulness, enaction and P.E. is a formidable course for self and other cultivation.

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