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<td>Source</td>
<td><em>Journal of Sport Psychology in Action, 10</em>(4), 214-219</td>
</tr>
<tr>
<td>Published by</td>
<td>Taylor &amp; Francis (Routledge)</td>
</tr>
</tbody>
</table>

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This is an Accepted Manuscript of an article published by Taylor & Francis in International Journal of Bilingual Education and Bilingualism on 12/01/2019, available online: [https://www.tandfonline.com/doi/abs/10.1080/21520704.2018.1549640](https://www.tandfonline.com/doi/abs/10.1080/21520704.2018.1549640)

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Reflections on Athletes’ Mindfulness Skills Development: Fitts and Posner’s (1967) Three Stages of Learning

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This research was supported by the National Institute of Education, Singapore – Research Support for Senior Academic Administrators (Grant Number: RS 14/17 KYH).
Abstract

As athletes embark on a journey to develop their mindfulness practice, it is imperative that they have some sense of the possible major developmental stages to expect. In this paper, I reflect on the stages of learning model by Fitts and Posner (1967), popularly adopted by coaches to facilitate motor skills acquisition, as a conceptualisation that can be useful for making sense of developmental progression in mindfulness practice. The three stages are: cognitive stage, associative stage, and autonomous stage. These deliberations may offer athletes some guidance as they approach and develop their personal mindfulness practice.

*Keywords*: meditation, personal growth, life skills, mental skills training, flow
Reflections on Athletes’ Mindfulness Skills Development: Fitts and Posner’s (1967) Three Stages of Learning

Mindfulness, or the capacity to intentionally attend to unfolding moments nonjudgmentally in a sustained fashion, is a useful mental skill for athletes to acquire. Some important benefits include propensity for flow, less fear, and fewer task-irrelevant thoughts, as previously suggested (e.g., Birrer, Röthlin, & Morgan, 2012). A recent theoretical proposition for understanding mindfulness – Monitor and Acceptance Theory (MAT) – offered by Lindsay and Creswell (2017) further highlights the importance of developing attention monitoring skills and acceptance skills in alleviating negative affectivity, stress, and stress-related health outcomes, which are all of relevance to athletes in pursuit of performance enhancements.

Athletes today have many means of receiving mindfulness practice instructions, such as from mindfulness courses (e.g., Mindfulness-Based Stress Reduction programme [MBSR], Santorelli, Kabat-Zinn, Blacker, Meleo-Meyer, & Koerbel, 2017), self-help books, mobile applications, and websites. As athletes develop their mindfulness practice, having some sense of the possible developmental stages can be useful. In this paper, I reflect on the relevance of Fitts and Posner’s (1967) stages of learning model on motor skills acquisition for appreciating athletes’ mindfulness skill development, given that both skills could improve with practice over time.

Fitts and Posner’s (1967) applied to mindfulness skills

Fitts and Posner’s (1967) three stages of learning model is a classical model for explaining motor skills development. Briefly, the first stage is the cognitive stage where learners make conscious effort to remember instructions for performing the desired skill. Next, in the associative stage, learners rely lesser on external instructions and become more adept at refining
the reasonably familiarised skill in response to situational demands. Finally, in the autonomous stage, having internalised the skill, learners perform the skills automatically without much reliance on conscious cognitive processes. Given that use of mindfulness skills is thought to be more internalised and progressively less effortful with practice, its development could be appreciated in terms of these three stages. Some practical suggestions for guiding athletes’ mindfulness skills development according to characteristics of different stages are articulated. The summarised overview of this discussion is also presented in Figure 1.

**Cognitive stage.** The development of mindfulness skills begins with getting clear instructions for mindfulness practice from a trustworthy source and practicing it. Instructions for practice, such as what is meant by mindfully paying attention repetitively to the object of focus (e.g., breathing or walking), should be correctly assimilated. Knowing what to do when attention wavers, and what is meant by being non-judgmental and open, are important too. When athletes start to use mindfulness techniques for arousal regulation during training or competition, correct understanding of instructions regarding the implementation of practice in the game is also necessary. After all, correct understanding guides correct practice, not knowing exactly what to do during mindfulness practice impedes progress and results in wasted efforts.

According to Fitts and Posner’s (1967) stages of learning model, beginners may find it challenging to remember or to comprehend instructions, especially if the information load is overwhelming. When learning new motor skills, the strategy is to limit the complexity and amount of instructions to be assimilated. Similarly, in the case of learning mindfulness skills, it would be imperative that instructions are simplified and kept to a minimal at the beginning. Sufficient time should be allocated for understanding and clarifying the instructions. Timely feedback also serves as important support during practice. If possible, it is helpful to receive
verbal feedback from a trusted mindfulness teacher more frequently at the initial stage to ensure that one is practicing according to instructions.

Potentially abstract concepts within the instructions should be made more concrete too. For instance, when starting to practise mindfulness of breath, some may have difficulty noticing the sensation of breath. Placing one’s finger under the nostril to feel the air can help to accentuate the meaning of being mindful to the sensation of breath (Chong, Kee, & Chaturvedi, 2015). Other potentially abstract concepts such as acceptance and non-judgemental awareness can also be better appreciated through concrete tasks. To help athletes understand what acceptance of negative and positive outcomes means in sports, it is useful for mindfulness training to be situated within sport practices. For instance, in basketball free-throw practice, training the athlete to accept the outcome of each shot without placing judgement, and guiding the athlete to mindfully refocus for the next shot could be a concrete way of practicing acceptance and mindfulness skills for performance enhancement.

In summary, the goal of this stage is to cognitively assimilate the instructions needed for practicing mindfulness correctly. It is therefore important to eradicate any possible impediment that prevents the athlete from correctly understanding the mindfulness practice instructions.

**Associative stage.** In the second stage, individuals would be less reliant on external instructions to practice or apply mindfulness skills. For example, the meaning of paying attention to breathing or to the ongoing moment would already be well-understood by then. Whenever mind-wandering occurs during the practice, familiarity with the remedial course of action too would enable one to return to the intended mindfulness practice more readily. Success in assimilating the meaning of acceptance and non-judgemental awareness by then could support mindfulness practice tremendously, as the ability to integrate both attention monitoring skills and
acceptance skills is integral for advancing in mindfulness practice, according to the MAT (Lindsay & Creswell, 2017). We can expect such integration to be more pronounced in the second stage than in the initial stage, indicative of increased familiarity with mindfulness skills.

The improved ability in using mindfulness skills in the open environment would be another defining characteristic of this stage. By now, it is more likely for skills gained from formal mindfulness practices to have some carry-over effects to daily life. Having learnt the initial nuts and bolts of mindfulness practice, it could be natural for one to test the applicability of the new found mindfulness skills in daily life. For example, the individual may be inclined to test his/her ability to pay attention to breathing and walking concurrently, thereby increasing the overall duration of being mindful. Likewise, when unpleasant situations arise in daily life, those in this stage may notice such negative circumstances as cues to momentarily suspend judgment, widening the gap between the negative stimulus and their own reactions. Some improvements in psychological well-being and coping capability may be resulted.

The tendency to apply mindfulness strategies during suitable sporting contexts should increase too. For example, before shooting a free-throw in a basketball game, the athlete may tend to recognise the need to take a moment to focus on the immediate state before executing the task. For someone familiar with mindfulness of the breath practice, briefly self-regulating one’s attention towards breathing could be all it takes to cope with the stressors confronted. As a result, a suitably relaxed state and non-judgmental perception towards the task may ensue, thereby facilitating a mental state more conducive for shot accuracy, instead of being overly anxious about the task.

In sum, athletes at this stage should already be familiar with the basic instructions of mindfulness practice, and had some successes in using these instructions in their mindfulness
practice. As a result, they could be more inclined to use their mindfulness skills without much external instructions in daily life activities and in sports, reaping some benefits of mindfulness.

**Autonomous stage.** The third stage is the autonomous stage where execution of skills is thought to be automatic. In terms of mindfulness skills, that would mean that one can attend to unfolding moments nonjudgmentally in a reasonably sustained fashion without much effort. Say, while walking, the act of mindfully paying attention to the current step and its immediate surrounding could be more of a regular habit by then. One may also become more attentive to details of the surrounding, and use them as cues to be mindful of the moment. Along with it, incidence of affective reactivity towards negative circumstances (and even positive circumstances) could also be considerably lower given the heightened familiarity with non-judgmental awareness developed through previous phases of practice.

This sense of effortlessness in maintaining mindfulness could also be brought to situations in sports. At this stage, concentration during training and competition could be understandably higher compared to that of the initial phases of mindfulness training. It should take considerably less effort to maintain concentration towards the task on hand as mindfulness is now a more regular habit. The tendency to be psychologically disturbed during competitions should also reduce. For instance, when a critical free-throw opportunity is awarded to the highly mindful player in the closing moments of a game, it may be habitual for the player to perceive the opportunity nonjudgmentally. The free-throw situation, though critical and a potentially nerve-wrecking one, should not be affecting the player’s shot performance as he/she has the tendency to choose to be equanimous towards the situation. In other words, the tendency to invoke equanimity in any situation, which Desbordes, et al. (2015) described as essential in the improvement of well-being and associated with contemplative practices, could be effortless for
athletes with advanced mindfulness skills too. Such strengthened disposition for mindfulness achieved through mindfulness training may also be explained by neuroplasticity, as neuroscience research suggests (Siegel, 2007).

**Summary**

In this paper, the stages of learning model by Fitts and Posner (1967) has been adopted to conceptualise the possible developmental stages to be expected when athletes pursue mindfulness practice. In the cognitive stage, the focus is placed on getting the instructions for mindfulness practice right. After familiarising with the practice, athletes in the associative stage could progress towards more frequent use of mindfulness skills in daily living and sports. In the final autonomous stage, the use of mindfulness skill is thought to be automatic and effortless, such that they are readily applied in any situation. The eventual development of equanimity, described as “even-minded mental state or dispositional tendency toward all experiences or objects, regardless of their origin or their affective valence (pleasant, unpleasant, or neutral)” (Desbordes, et al., 2015, p. 356), could potentially be a sign of advanced level of mindfulness development.

Even though there is no specific duration for how long one would stay in each stage, characteristics of the three stages interpreted based on Fitts and Posner’s (1967) are sufficiently distinct. Athletes developing mindfulness practice can take reference from the current interpretation to get a handle on how their mindfulness practice could unfold over time. Some athletes may even benefit by using the entire developmental process articulated as a reference to augment any deficiencies in their training of mindfulness regardless of stage. Moving forward, empirical research efforts to examine the validity and usability of this interpretation of developmental stages in mindfulness practice is warranted.
References


Cognitive
- Assimilate instructions for mindfulness practice
- Limit complexity and amount of instructions
- Timely feedback serves as important support
- Make abstract concepts concrete for ease of understanding

Associative
- Incline to apply mindfulness in daily life and sports
- Integration of attention monitoring skills and acceptance skills
- Noticing negative circumstances as cues to momentarily suspend judgment and for applying mindfulness

Autonomous
- Effortless in maintaining mindfulness in daily life and sporting situations
- Concentration towards task on hand is habitual
- Tendency to invoke equanimity in any situation
Figure 1. Athletes’ mindfulness skills development in relation to Fitts and Posner’s (1967) three stages of learning.