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Guiding Principles: Applying Water Competence to Drowning Prevention

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Guiding Principles: Applying Water Competence to Drowning Prevention

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We conceive of the steadily-evolving concept of water competence as broadly inclusive (Langendorfer & Bruya, 1995), albeit for purposes of this presentation and conference we limit our discussion to drowning prevention contexts. Moran (2013) defined water competence in a drowning prevention context as “the sum of all personal aquatic movements that help prevent drowning as well as the associated water safety knowledge, attitudes, values, judgment and behaviors that facilitate safety in, on and around the water.” We have argued previously that the concept of water competence must take on a more comprehensive role in water safety education, especially related to drowning prevention, in our efforts to describe and identify important learning outcomes, essential tasks to be learned, and appropriate teaching-learning strategies.

Table 1. Water competencies applied to drowning prevention (Stallman *et al.*, 2017)

Water competencies			
1	Safe entry a) Entry into water b) Surface and level off	9	Clothed water competencies
2	Breath control Integrated and effective breathing	10	Open water competencies
3	Stationary surface competencies a) Float front and back b) Tread water	11	Knowledge of local hazards
4	Water orientation competencies a) Roll from front to back, back to front b) Turn, L & R, on front & back	12	Coping with risk a) Recognize and avoid risk b) Judgment of risk and action
5	Swimming competencies a) Swim on the front b) Swim on the back	13	Assess personal competency
6	Underwater competencies a) Surface dive b) Swim underwater	14	Recognize/assist a drowning person
7	Safe exit	15	Water safety attitudes & values
8	Use of personal flotation devices (PFDs)		

In this presentation, we propose that water competence represents a holistic and dynamic approach to integrate psychomotor tasks, cognitive knowledge, and affective attitudes that has been inadequately addressed. To do so, we draw upon

Newell's (1986) dynamic constraints model that views water competence as a system integrating personal characteristics, task demands, and environment contexts. Using the constraints model, we identify and discuss examples of the 15 unique, but overlapping water competencies that represent the critical aquatic psychomotor tasks, cognitive knowledge, and affective attitudes related and applied to drowning prevention.

One unique aspect of the current attempt to identify "what should be learned and taught" from a drowning prevention perspective is the application of a large body of contemporary research evidence showing the protective value of each of the essential elements and related tasks of water competence.

The nature of the concept of water competence is such that we offer here several guiding principles which can aid participants in interpreting, improving, implementing, and disseminating the concept more broadly with practical examples for aquatic practitioners. This work draws upon Robertson's (1993) conceptualization of *developmentally appropriate practices* (DAP) and its three essential pedagogical skills (i.e., developmental assessment, teaching individuals, not groups, and making tasks easier or harder). For example, we provide several examples of how proficiency may change when personal characteristics (e.g., age, fitness, and cognitive levels), water competence tasks (e.g., floating, swimming), and different aquatic environments (e.g., heated, in-ground swimming pool, open water, moving water, surf) interact. These interactions suggest the importance of employing a contextual basis for teaching pedagogies, especially exploration, guided discovery, and task setting, to facilitate the acquisition of competencies to match the capabilities of each learner. We also explain how individuals' water competence may change systematically due to 1) personal characteristics; 2) aquatic tasks being performed; and 3) different aquatic environmental conditions in conjunction with developmentally appropriate practices.

This presentation draws upon and expands the highly-acclaimed and cited paper, "From swimming skill to water competence: Towards a more inclusive drowning prevention future" by R.K. Stallman, K. Moran, L. Quan, & S.J. Langendorfer published 2017 in the *International Journal of Aquatic Research and Education*, 10(2), 1-35 and is available at <http://scholarworks.bgsu.edu/ijare/vol10/iss2/3>. We encourage session participants to familiarize themselves with the extensive research provided in the paper prior to participating in the presentation to promote a more productive discussion.



Professor Emeritus Stephen J. Langendorfer, PhD., is the retired Director of the School of Human Movement, Sport, and Leisure Studies at Bowling Green State University, Ohio, USA. He has authored numerous scholarly publications including co-authoring *Aquatic Readiness: Developing Water Competence in Young Children* (1995). Since 1987 he has served as a volunteer consultant to the American Red Cross for which he was awarded the Golden Whale Award from the Commodore Longfellow Society and Lifesaving Hall of Fame. He serves as the founding editor for the *International Journal in Aquatic Research and Education (IJARE)*. He received the 2013 the Ireland Medal.