



## Life Skills Acquired Through Swimming Context in Relation to Students' Academic Achievement

Samira M. Orabi<sup>1</sup>, Manal M. Bayyat<sup>2</sup>, Mohammad H. Abu Altaieb<sup>3</sup>

<sup>1</sup>Department of Health and Recreation, School of Physical Education, The University of Jordan.

<sup>2</sup>Department of Management and Coaching, School of Physical Education, The University of Jordan.

<sup>3</sup>Department of Supervision and Teaching, School of Physical Education, The University of Jordan.

### Abstract

This study aims to investigate the relation between life skills acquired through swimming context and students' academic achievement. The population of this study were students who attended one of the three levels of the swimming courses in the School of Physical Education /University of Jordan (n= 259). The study sample consisted of 211 students distributed into basic, intermediate, and advanced swimming courses (N=109, 73, 29, respectively). "Life skills through swimming context scale" was used to collect the life skills required data, in addition to the students' academic achievement throughout the different swimming courses. Percentages, means and standard deviation were used to describe the collected data. Results of the study show that the sample of the study had acquired life skills through swimming context on a high-level scale. Taking responsibility was the most important life skill learned through the swimming context (88%), followed by communication and self-confidence/ self-esteem (86%), teamwork (85%) and finally problem-solving (80%). Furthermore, significant differences occurred in students' academic achievement according to the swimming course level in favor of the advanced level students. We found a significant relation between acquired life skills and the students' academic achievement of all group sample. In conclusion, students' academic achievement level positively reflected the life skills they acquired through the swimming context. Life skills can play an important role in the promotion of mental well-being as well as academic achievement. Therefore, it is important to design comprehensive life skill-based study plans in different sport fields to enhance students' life skills through sports.

**Keywords:** Well-being, sport context, higher education, youth development.

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### المهارات الحياتية المكتسبة من خلال مساقات السباحة وعلاقتها بالتحصيل الأكاديمي

سميرة عرابي<sup>1</sup>, منال البيات<sup>2</sup>, محمد أبو الطيب<sup>3</sup>

<sup>1</sup>قسم الصحة والترويح, كلية التربية الرياضية, الجامعة الأردنية.

<sup>2</sup>قسم الادارة والتدريب, كلية التربية الرياضية, الجامعة الأردنية.

<sup>3</sup>قسم الادارة والتدريب, كلية التربية الرياضية, الجامعة الأردنية.

### ملخص

هدف هذا البحث إلى دراسة العلاقة بين المهارات الحياتية التي يكتسبها طلبة كلية التربية الرياضية/ الجامعة الأردنية من خلال مساقات السباحة والتحصيل الأكاديمي. ويكون مجتمع الدراسة من طلبة مساقات السباحة في كلية التربية الرياضية/ الجامعة الأردنية بمستوياتها الثلاثة (سباحة 1, سباحة 2, سباحة 3). وعدد طلابها 259 طالباً. أما عينة الدراسة فقد اشتملت على 29 طالباً موزعين على مساقات: سباحة 1, سباحة 2, سباحة 3. تخصص سباحة على التوالي بما يتوافق مع مجموعه 211 طالباً. وتم استخدام "مقياس اكتساب المهارات الحياتية من خلال السباحة" من أجل جمع البيانات، إضافة إلى تناول تحصيل الطلبة في المساقات الثلاثة. وقد استخرجت النسب المئوية والمت渥سطات الحسابية والاتجاهات المعايير لوصف النتائج إحصائياً وأظهرت نتائج البحث اكتساب أفراد العينة المهارات الحياتية بمستوى عالي؛ فقد احتلت مهارة تحمل المسؤولية المرتبة الأولى بنسبة (88%), يليها مهارات التواصل والثقة بالنفس/تقدير الذات بنسبة (86%), ثم مهارة العمل الجماعي بنسبة (85%), وأخيراً مهارة حل المشكلات بنسبة (80%). كما أظهرت النتائج وجود علاقة دالة إحصائياً بين مدى اكتساب الطلبة لمهارات الحياتية وتحصيلهم الأكاديمي، وقد كانت الفروق دالة إحصائياً تبعاً لمستوى المساق لصالح طلبة مساق تخصص السباحة. وأشارت النتائج بالجملة إلى أن مستوى التحصيل الأكاديمي يعكس إيجاباً مدى اكتساب الطلبة لمهارات الحياتية، كما أن مهارات الحياتية يمكن أن تؤدي دوياً فاعلاً في تطوير وتحسين الصحة العقلية والتحصيل الأكاديمي على حد سواء؛ لذا فإنه من الأهمية بمكان تصميم خطط دراسية مبنية على المهارات الحياتية في المجالات الرياضية المختلفة من أجل تنمية مهارات الطلبة الحياتية.

**الكلمات الدالة:** الصحة البدنية، المحتوى الرياضي، التعليم العالي، التنمية البشرية للشباب.



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## 1. Introduction

World Health Organization, (2003) defines Life skills as “the abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life and for the future.” They enable us to translate knowledge, attitude, and values into actual abilities. The World Health Organization, (WHO) suggested a core set of life skills including decision making, problem-solving, creative thinking, effective communication, interpersonal relationship skills, self-awareness, empathy coping with stress and emotions.

United Nations Children's Fund (UNICEF) have built on the WHO efforts in life skills. They summed up life skills in three broad categories; cognitive skills – critical thinking and problem-solving skills for responsible decision making, personal skills – skills for awareness and drive and for self – management and interpersonal skills – skills for communication, negotiation, cooperation and teamwork, and for inclusion, empathy and advocacy (UNICEF, 2012).

The nature and definition of life skills may vary according to differences in cultures and settings. They are being taught widely all over the world and appear to have relevance across cultures. Life skills can be acquired through the learning process. They are interdependent and inter-related; none of them stand alone; they reinforce each other. Together, they are responsible for psychosocial competence, building self-esteem, and self-efficacy, to nurture holistic self-development (World Health Organization, 2003). These life skills are considered to be important for individuals to succeed in different settings such as school, home, neighborhood, and community. They have a positive effect on a person's actions and tend to change his actions towards himself and towards others (UNICEF, 2012; World Health Organization, 2003; Danish, 1996). For adolescents to acquire life skills, these must be concrete, easily taught, quickly learned and transferable

UNICEF has emphasized that life skills can be learned through education settings and highlighted the importance of the context in which life skills are presented. According to UNICEF life skills programs and interventions focus on teaching important life skills. They are developed to help adolescents learn to achieve a positive future.

life skills introduced to learners through an interactive teaching approach have stronger effects on learners than information-based approach (Holt, Tink, Mandigo, & Fox, 2008). Such skills can be taught in combination with athletic skills in sport contexts (Danish, 1996). Sport psychologists have studied sport as a context for positive youth development (Holt, Tink, Mandigo, & Fox, 2008). Researchers reported the development of numerous positive characteristics in individuals through sport participation such as increased self-awareness, goal setting, time management, emotional regulation skills, positive peer relationships, leadership skills, initiative, personal and social responsibility, and self-esteem (Gordon & Doyle, 2015; Mehr, 2011; Ullrich-French & McDonough, 2013).

Steinmayr, Meißner, Weidinger, & Wirthwein (2014) have illuminated that ‘Academic achievement represents performance outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments, specifically in school, college, and university.’ Students’ academic achievement, similarly, measures the amount of academic content a student learns in a determined amount of time. Each grade level has learning goals or instructional standards that educators are required to teach (Carter, n. d). Overall, the purpose of student evaluation is to assess performance (skill attainment) and knowledge learned in the educational program.

A variety of measurement methods can evaluate students. A test is a series of questions or exercises used for measuring the skill, knowledge, intelligence, capacities, or aptitudes of an individual or group (“Test,” 2017). Likewise, a performance test in education is an assessment that allows teachers to gather information about what students can do with what they are learning, how well they can perform a task or an activity (Darling-Hammond and Adamson, 2010). Such test is generally used in Physical Education and sports settings. Human scoring of performance tasks is highly reliable when tasks are standardized and when scorers are effectively trained to share a common understanding of the scoring rubric to apply it consistently.

In seeking to advance the literature in youth development/sport area, the authors have decided to investigate life skills acquired through the swimming context in relation to the students’ academic achievement. Bayyat, Orabi, & Abu Altaieb (2016) have concluded that a swimming context can be a rich environment. By using different teaching/ learning methodologies such as brainstorming, demonstration and guided practice, small groups, games and situation analysis in

swimming classes, students were able to develop their life skills.

Therefore, the main purpose of this study was to investigate the relation between the level of life skills acquired by students attending basic, intermediate and advanced swimming courses at the School of Physical Education/University of Jordan and their academic performance.

## **2. Method**

### **2.1. Procedures**

The swimming program of the School of Physical Education at University of Jordan was chosen to conduct this study. The program offers three swimming course levels to all students each academic semester. Both basic and intermediate levels are obligatory for all students while the advanced level is an optional course. Each swimming level has different intended learning outcomes; by the end of the basic level students are expected to stand in the water, develop water confidence and basic technique of the Front Crawl and Backstroke. By the end of the intermediate level students are expected to show more advanced Front Crawl technique and Breaststroke. In addition to some basic lifesaving skills. However, by the end of the advanced swimming level students improve the quality of their strokes and increase the competency of their core aquatic skills. Students should also be able to teach/ train different swimming skills. As for the students' academic achievement, the instructors of the swimming courses were responsible for evaluating the students' academic achievement through assessing their skill performance and knowledge during the midterm and final exams

The Johnston, Harwood & Minniti, (2013)'s approach was adopted to determine the Life skills considered in this study; These skills included communication, teamwork, self-confidence/ self- esteem, problem-solving, and taking responsibility.

Hendricks, (1996) identified these skills as follows;

Taking Responsibility - taking care of oneself or others; being accountable for one's behavior and obligations; choosing between right and wrong.

Communication - exchange of thoughts, information or messages between individuals; sending and receiving information.

Self-confidence/self-esteem - pride in oneself; proper regard for oneself as a human being; valuing oneself; learning to accept and like oneself.

Teamwork - work done by two or more people, each doing parts of the whole task.

Problem Solving - clearly identifying a problem and a plan of action for resolution of the problem.

### **2.2 Participants**

The population of this study were students enrolled in one of the three levels of the swimming courses at the School of Physical Education at the University of Jordan in the academic year 2016/2017. The sample of the study consisted of 211 students (81% of the population) with a mean age of (M age = 20.4 SD = 1.35) distributed as described in Table 1. They attended the basic and intermediate course level one hour/three days a week for four months, and two hours/ three days a week for four months for the advanced course level.

Table 1. Swimming courses students' population and sample distributed by course level

Course Level	Population (N)	Sample (N)
Basic	134	109
Intermediate	91	73
Advanced	34	29
Total	259	211

### **2.3 Instrumentation**

#### **2.3.1 "Life skills through swimming context scale":**

"Life skills through swimming context scale" is a validated and reliable scale (Bayyat et al.), 2016). The scale's reliability coefficient has been calculated by measuring the internal consistency for each factor using the Cronbach's Alpha. The total value of reliability was (0.88). The scale consists of two sections (Appendix A). The first section included information about the swimming course level. The second section included 42 items reflecting five life skills. They were communication, teamwork, confidence/ self-esteem, problem-solving and taking responsibility.

Students were asked to circle the level of life skills they thought they acquired through their swimming context. A five-level Likert scale for frequency was used to assess each item: always (5), often (4), sometimes (3), rarely (2) and never (1).

#### **2.3.2 Students' academic achievement:**

By the end of each level of the three swimming courses, students were expected to be able to acquire certain swimming skills and knowledge. Swimming courses instructors assessed the students' academic achievement using performance tests, and paper and pencil tests for each level constructed by the swimming instructors at the School of Physical Education/ University of Jordan (Appendix B). Each tests' reliability coefficient was calculated using Cronbach alpha to measure internal consistency. The total value of reliability ranged between 0.78 and 0.82.

### **2.4 Data Collection**

To collect data concerning students' life skills acquired through attending basic, intermediate or advanced swimming courses at the School of Physical Education/University of Jordan. The "Life skills through swimming context scale" was used at the end of the second semester of the academic 2016-2017. Permissions and ethical approvals were obtained.

The first and third author distributed the scale to the sample of the study (n=211). Participants were thanked for their time and effort and their voluntary contribution. Also, they were confirmed that all data would be used only for scientific research purposes. Most importantly they were instructed to carefully read the items, check the answer that mostly corresponds to them and to answer all items.

Students' academic achievement data were based on summative assessment. lecturers of all swimming courses assessed their students through mid-term and final practical and theoretical exams. During the assessment process, lecturers tended to be fair, avoid stereotyping and biases and yield to consistent results. On the other hand, students were expected and asked to demonstrate the best of their knowledge and skills. By the end of the semester, each student scored a final grade reflecting his/ her level of academic achievement. Nevertheless, since the University of Jordan uses the letter grading system, it was more convenient to convert these grades into numbers from 4 to 1.

#### **2.4 Statistical Analysis**

Descriptive data were generated to identify the nature of the acquisition of life skills among the students of the swimming courses. T-test was used to investigate life skills acquired through swimming context according to the swimming course level, to study students' academic achievement level according to swimming course level. Pearson correlation coefficient to examine the relation between life skills acquired and the students' academic achievement level. A *p* value of <0.05 was considered significant. All analyses were carried out using SPSS, version 14.

## **3. Results**

### **3.1 Life Skills Acquired through Swimming Courses**

Table 2 shows that the sample of this study acquired all five life skills through attending their swimming classes on a high-level scale. Students thought that taking responsibility was the most important skill learned through the swimming context (88%), followed by communication and self-confidence/self-esteem (86%), teamwork (85%) and finally problem-solving (80%).

Table 2. Means, SD, percentages of importance, level of acquisition and ranking of life skills of students through swimming courses

Ranking	Level	Percentages	SD	Mean	Dimensions
1	High	88%	0.57	4.38	Taking responsibility
2	High	86%	0.51	4.3	Communication
3	High	86%	0.56	4.28	Self Confidence/self esteem
4	High	85%	0.59	4.26	Teamwork
5	High	80%	0.59	4	Problem Solving
	High	83%	0.55	4.21	Total

### 3.2 Students' academic achievement:

As shown in Table 3, students enrolled in the basic swimming level scored the least mean of grades of 2.47. While students enrolled in the advanced level scored the highest mean of grades of 2.96, with a total mean of 2.64.

Table 3. Students' Academic Achievement in swimming courses

Course Level	Sample (N)	Mean	SD
Basic	109	2.47	1.17
Intermediate	73	2.78	1.23
Advanced	29	2.96	1.16
Total	211	2.64	1.19

### 3.3 The Relation between the Acquisition of Life Skills and the students' academic achievement.

Pearson's correlation coefficient was used to measure the strength of the linear relationship between life skills acquired through swimming classes and the students' academic achievement level of the students. Table 4 shows significant relations between all life skills acquired (Taking responsibility, communication, teamwork, self-confidence/ self-esteem, and problem-solving) and students' academic achievement.

Table 4: The Relation between the Acquisition of the Life Skills and the students' academic achievement.

	Taking responsibility	Communication	Teamwork	Self Confidence/ self esteem	Problem Solving
Academic Achievement Basic level	0.77*	0.79*	0.78*	0.83*	0.66*
Academic Achievement Intermediate level	0.89*	0.76*	0.74*	0.89*	0.74*
Academic Achievement Advanced level	0.88*	0.89*	0.66*	0.91*	0.89*
Total Academic Achievement	0.82*	0.81*	0.79*	0.84*	0.86*

\*: Significant ( $p < 0.05$ )

## 4. Discussion

Findings of this study referring to life skills acquisition were encouraging. The participants perceived taking responsibility as the most important learned skill (88%); throughout the swimming courses students were eager to learn swimming techniques, they practiced their swimming drills with all their effort and without supervision, and were able to invest their time in learning and organizing their duties, they cooperated with their peers, especially the less active, and tried their best to understand them.

They also thought that they attained a good level of communication skills (86%); they listened carefully to the technical

explanation of the skills, and focused while listening to the teachers' instructions and were good at following them, they interpreted the non-verbal signs of the lecturer and showed good reactions during swimming practice, they used both verbal and non-verbal communication to interact with others, they communicated with others with confidence and they negotiated others to convince them with their point of view about the right performance skills and still accept others' opinions.

Self Confidence/self-esteem skills (86%) manifested, mostly, by being capable of praising or criticizing others and accepting being praised or criticized easily, they swam with confidence and felt enthusiasm while learning new swimming skills, they did not have any problem performing these new skills and of course they were satisfied with the way they dealt with others.

Students, also, participated effectively in teamwork (85%); they believed that they were team players and the group interest was always their priority. They did their best to enforce trust bonds between team members, they, willingly and respectfully, listened to and accepted others' ideas.

Problem-solving is similarly regarded as an essential life skill (80%); students presented constructive criticism toward technical skills; they were able to discover faults in their performance which their colleagues fail to do. They also identified their strengths and weaknesses during their practice and found suitable solutions. They were able to think out of the box and tried to be creative while swimming, and they decided to be helpful to others by giving them critical advice, they suggested different solutions to problems, studied the alternatives and chose the best option.

While discussing such high level of life skills acquired through different levels of the swimming courses, the importance of contextual elements related to swimming becomes very clear. Although swimming classes were not deliberately designed to enhance students' life skills, it is rather a byproduct of sport learning/ teaching setting process, considering the structured context facilitating the development of such skills (Fourie & Surujlal, 2011; Gould, Collins, Lauer, & Chung, 2007). The swimming courses have provided quality experiences which eventually promoted life skills development.

In accordance, Holt et al. (2008) presented the US sport-based life skills intervention program Teaching Personal and Social Responsibility (TPSR). TPSR focused on teaching specific life skills through sport and other types of physical activities. Through the program participants were able; to boost their self-confidence, to promote cooperation and enable participants to get to know each other (teamwork), as well as to enhance self-esteem and to encourage listening and communication skills.

Waldron (2009) likewise has identified several life skills which emerged through participating in the Girls on Track (GOT) program including; communication, problem-solving, health maintenance, and identity development. While Weiss, Stuntz, Bhalla, Bolter & Price (2013) have found that the First Tee program had a positive impact on promoting youth development in the golf context and in the transfer of life skills to other domains.

Furthermore, Papacharisis, Goudas, Danish, & Theodorakis, (2005) revealed that children who received an intervention of the modified version of Sports United to Promote Education and Recreation (SUPER) showed higher goal setting, problem-solving, positive thinking, and sport skills. Mehr (2011) also claimed that swim training and exercise could provide an appropriate ground for demonstrating abilities and competence and may enhance self-esteem.

In their research Watkins, Larson, & Sullivan (2007) have reported that students learned about teamwork through their involvement in the team. Similarly, Holt, Tamminen, Tink, & Black, (2009) indicated that sport could provide an educational context for acquiring life skills such as communication skills and teamwork, they also highlighted that interaction with key social agents (peers, parents, and coaches) were crucial components of how students learn life skills through their involvement in sport. Peer interactions appeared to be the most meaningful aspects of youth sport participation.

A significant positive relation occurred between life skills acquired by the students through basic, intermediate and advanced swimming classes on one side and students' academic achievement on the other. These findings were like those of Yu, Chan, Cheng, Sung, & Hau, (2006). They revealed that academically high-achieving boys and physically active boys had higher self-esteem. Also, Ross, & Broh, (2000) explained that academic achievement improves self-esteem. And McCabe, Blankstein, & Mills, (1999) whose results showed a significant relation between interpersonal sensitivity and academic performance, for both males and females. Aryana, M. (2010) also agreed that there was a positive relation between

self-esteem and academic achievement.

It is important to highlight the significant differences occurred in students' academic achievement according to swimming course level in favor of advanced level. This result may be contributed to the technical and skill level of students in the advanced swimming course.

### **Conclusion**

This study aimed to examine the relation between the acquisition of life skills and academic achievement of students attending different levels of swimming classes. The results revealed positive significant relation. Findings, also, showed that students' enrollment in the swimming courses affected positively on their life skills. Such life skills acquisition and application can influence the way students feel about themselves and others. Therefore it will play an important role in the promotion of mental well-being as well as academic achievement. These results bring into consideration the importance of integrating life skills through different sport context in the future. Efforts should start by designing comprehensive life skills-based study plans in which professionals from different sport fields are involved.

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