



PLAYING IN THE WAVES AND AQUATIC COMPETENCE IN INFANCY

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Aquatic education influences the relationship between each individual and the aquatic environment, which is why it is important to consider the contextual and sociocultural factors of each location, getting closer to real learning. It is important to use the accesible natural resources, and to involve the learner in the aquatic competence development process. Games are a valuable tool for relevant learning.

Introduction



Games are an essential tool for the holistic development of infants. In particular, aquatic games offer the possibility to explore and express diverse emotions, apart from promoting significant motor learning.

Through playing in the waves with the game called *He'e Nalu*, you can guide children in the process of joining the aquatic environment and its natural surroundings, offering them the chance to experience and experiment with situations and emotions which, apart from enhancing their aquatic competences, build

their personality, character and values.

In this resource, we present an educational experience that took place in the coastal area of the Rocha department, in Uruguay, with a group composed by 10 children between the ages of 4 and 6. An aquatic activity in nature, commonly known as surf, can become a unique and significant experience for the bio-, psycho- and social development of children.

By playing in the waves, which serves as the basis for surfing, addresses aquatic competences during infancy. The aim is to provide practical tools and support learning processes that drive children close to the aquatic natural environment in a safe, fun and significant way. To do so, we choose to start with a presentation of key concepts that will guide the methodology and development of the activities.

Key concepts

HE'E NALU

To understand this concept, it is necessary to travel in time and become aware of the Hawaiian culture. According to Ariel Gonzales (1996), the Hawaiian culture did not

develop writing, but it did involve a rich linguistic oral and cultural symbolism. The stories and chants, known as *haku meles* and *mo'olelos*, describe the particularities of their people, leaders and customs. Some of its language's terms have multiple meanings, and the interpretation varies according to the context. For example, *he'e* can be interpreted as “changing from a solid to a liquid state”, but also as “sliding like a liquid”, whereas *nalu* references to the “foaming of a wave” or to its “undulating movement” (Gonzalez, 1996).



He'e Nalu was a recreational drive, practised not only due to its self-gratifying and collective call potential, but also because it subjectively transmitted the heart of the Austronesian cosmogony: we live in an undulating universe, surrounded by water that is full of life. We are one and part of the Ohana, the cosmic family (Ariel González, 2021).

According to Francisco Araña (2012), the origin of surf is complex. Some documents reveal its existence for hundreds of years in Polynesian islands such as Tahiti, New Zealand, Rapa Nui, Samoa, Tonga and others, but its presence was also registered in places outside of the Polynesian complex, such as Western Africa and Peru. However, it is known that the culture and development of surf have Hawaiian origins. *Nalu*, for the Hawaiian, means surf, and *Papa He'e Nalu* is the surfing board. Sliding through the waves is a tradition of the Hawaiian people, who had before used boards made by native wood such as *Ulu* (bread fruit), *Koa* (acacia) and *Wili Wili* (Hawaiian coral tree) (Araña, 2007).

According to González and Araña, **He'e Nalu** can be defined as “sliding through the waves”, an ancestral practice that builds a source of knowledge, spirituality and link to the ocean. It is a live cultural memory that articulates body, nature and spirituality, contrasted with the contemporary ways of surfing that have been denatured and commercialised.

Environmental education

Environmental education is a pedagogical, ethical and political tool oriented to the building of values, knowledge, and attitudes that enable the transition to sustainable development and a better quality of life based on equity, social justice and respect for biological and cultural diversity. Environmental education promotes the building of environmental knowledge that rescues, builds and proposes appropriate relationship modes between society and nature contextualised in each territory from a perspective that goes from the local to the global in both ways. Environmental learning involves a

conjunction of knowledge and skills, both academic and popular (PLANEA, 2014).

This process aims to rescue the oceanic culture and playing in the waves from He'e Nalu. Through environmental and aquatic education, we develop a methodology that guides the process of union with the surroundings and the aquatic environment, considering the role that games play, experience in a natural environment and felt emotions.

It is key to consider dynamics that incorporate the elements of the coastal-marine ecosystem where this takes place. It is possible that in some regions of the world, the coastal area is made up of dunes and, in others, of cliffs; that the water is always cold; that there is a specific type of fauna and flora, etc. In the case of not having instances to connect with the environment, it is possible to use observation tools such as cards with representative images, videos, sounds, toys, among other things, aiming to become aware, share information and facts, and promote the observation of the surroundings.



Methodology



In this project, games and motor tales are the main educational tools used to tackle the different content we want to work with. In each lesson, there will be one predominant dimension of aquatic competence: aquatic literacy, drowning prevention or environmental education (Fonseca Pinto & Moreno-Murcia, 2023), but the other two will also be indirectly interacting due to their inseparable character, and because we consider children as bio-psycho-social beings, and their learning, holistic in a specific context.

The activities adjust to the children's and the sea's rhythm. Usually, each lesson lasts for one hour, and, even if we more or less estimate the time taken for each section (10 minutes for the initial part, 40 minutes for the central part, and 10 minutes for the final part), the duration is distributed according to the children's necessities and what the environment proposes. The natural environment has a particular rhythm, very different from a classroom or a swimming pool, so it is important to connect and flow with it.

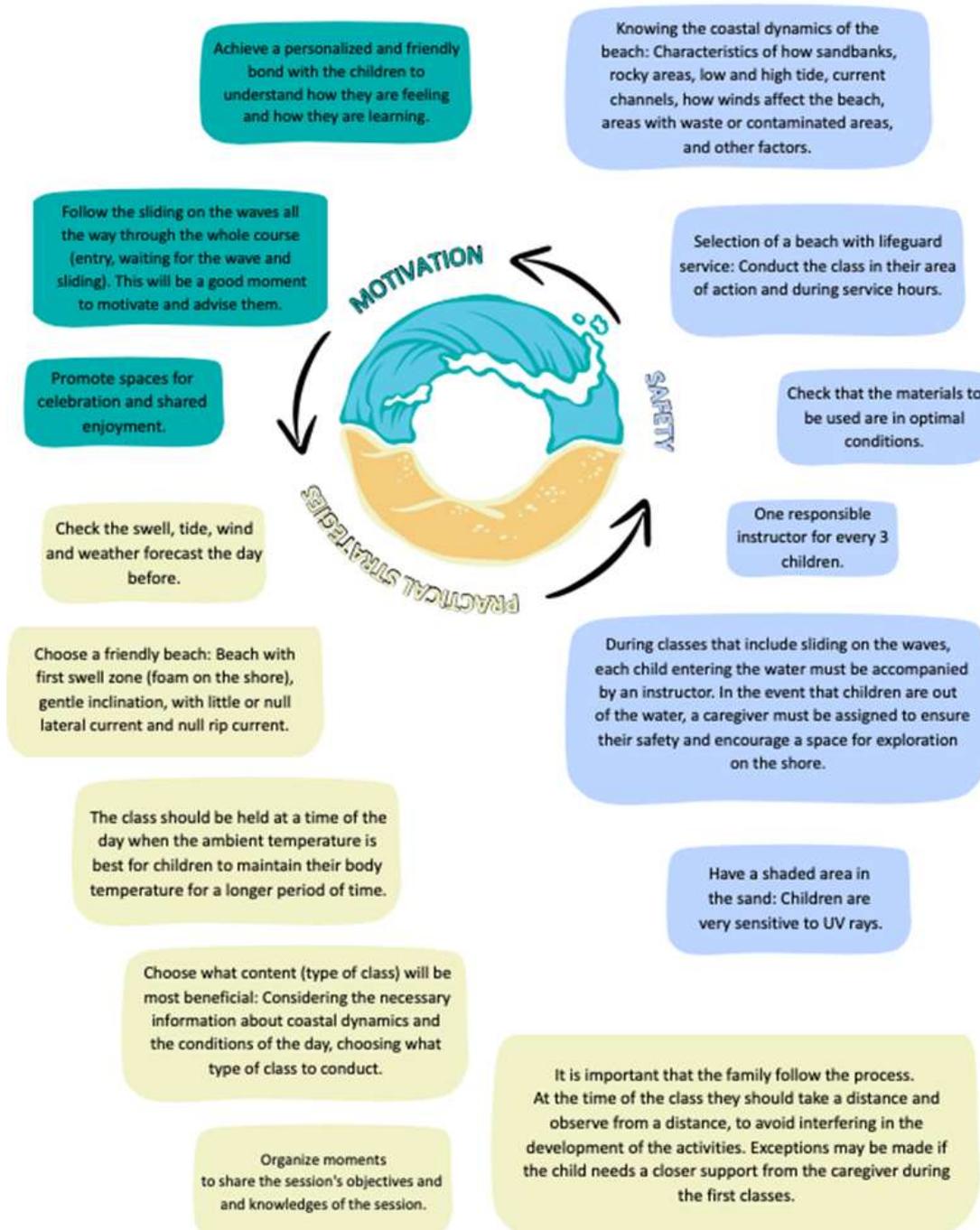
We will begin with inclusive proposals, contemplating every aspect of the child, establishing aquatic development spaces where children evolve organically, from the simplest to the most complex elements, enhancing their autonomy and confidence (Moreno-Murcia & Ruiz Perez, 2020).

Some children who participate in this process may have a previous link to the aquatic environment, so their learning rhythm can be faster, but it is important to consider that, for many of them, this will be their first aquatic experience.

Principles for a safe and motivating class

Hereunder, we present some key principles for the development of safe, challenging and exciting practices (Figure 1).

Figure 1. Key principles for the approach of practical sessions.



Materials

Materials vary depending on the objective of the session and the environmental characteristics of the moment.

- Gazebo or umbrella.
- Surfing boards designed for safe learning (size and floatability that generate stability and ease, soft material on the surface and keels).
- Leash in perfect condition (safety rope).
- Comfortable lifejackets fit for their ages and sizes.
- Three flags of different colours: red, yellow and green.
- Rod, made preferably of a natural material (bamboo cane or wood stick).
- Rope or string.



Activity proposal

Considering the previously mentioned principles and key concepts, we share the following activities:

Lesson with a predominance of the preventing dimension of aquatic competence.

In this lesson, we will tackle “Drowning prevention – Cognitive Area (Knowledge)”. It is known that carrying out aquatic activities as a child involves significant risks, especially if they are just starting to connect with this environment. The coastal aquatic medium is characterised by natural factors, and it is necessary to understand them and be aware of how you should act in all situations, as they can become your worst enemy and cause fatal accidents.

Group: Infants who attend the Surfing Academy.

Context: Connecting with the coastal-marine environment and initiating playing with waves class.

Total duration of the class: 60 minutes.

Objectives

- Establishing a neat and inclusive approach in the coastal aquatic medium.

<ul style="list-style-type: none"> • Becoming aware of the language of prevention used by lifeguards in a simplified way. • Educating families about the importance of the active presence while playing in the water and waves for drowning prevention. 			
Name of the activity	Development	Materials	Organization
Initial Part			
<p>Welcome round of interaction</p> <p>Estimated time 10 minutes</p>	<p>Inviting them to meet in a spot of the beach that is unsafe and risky (rocky area, stream disgorging in the beach, human construction, etc).</p> <p>Speaking about this place, what risks do they think it entails, and whether we can enjoy it in any way.</p> <p>Highlighting the importance of being always accompanied by a responsible adult and the oversight of the lifeguards.</p>		
Central Part			
<p>Game</p> <p>“Coastal traffic light”</p> <p>Estimated time 35 minutes</p>	<p>Situating in a line parallel to the sea and continuing to move all together (grasping a rope), aiming to reach the traffic light (teacher).</p> <p>Variant 1: Incorporating red, yellow and red flags. In this way, we introduce the language that lifeguards use. Red: they must stop, as there may be any danger. Yellow: they can advance slowly, very carefully and with caution. Green: advance quickly, as there is no risk.</p> <p>Variant 2: Incorporating a long cane, preferably of natural origin. This cane will enable children to hold on to something and can advance in ventral position while kicking. This position will generate experiences of propulsion and immersion. If a participant, due to lack of confidence or fear, does not want to adopt this position, they can walk (teachers intervene to generate a safe and motivating environment so they can try).</p> <p>Variant 3: Families are invited to participate in the game, and we will take advantage of the situation to educate about the importance of being close to</p>	<p>String or rope</p> <p>1 red flag 1 yellow flag 1 green flag</p> <p>Bamboo cane, wood stick or others.</p>	<p>Rin line, parallel to the sea</p>

	the children and how this can affect their emotions and aquatic evolution.		
Final Part			
Visit to local lifeguards	Visiting the beach lifeguards to know them, so they can talk about who they are, what they do and what the flags are for in a brief and simplified way (image 1).		In line, holding hands. Forming a round.
Estimated time 15 minutes	Photo with the local lifeguard team (image 2).		

Lesson with a predominance of the motor literacy (know-how) dimension of aquatic competence

This class enables participants to experiment different ways of connecting with the waves (safely) using surfing boards.

Group: Infants who attend the Surfing Academy.			
Context: Connecting with the coastal-marine environment and initiating playing with waves class.			
Total duration of the class: 60 minutes.			
Objectives			
<ul style="list-style-type: none"> • Teaching safe ways to use surfboards. • Experimenting with situations of balance, breathing control and emotional management when connecting with the waves. • Initiating an aquatic activity that promotes corporal expression in connection with nature. 			
Name of the activity	Development	Materials	Organization
Initial Part			
Welcome round of interaction "Animal Surfers" Estimated time 10 minutes	Shooting questions: Who likes tales and stories? Have you ever heard the story of the animal surfers? I will share it with you! An old fisherman from La Coronilla (place in which they are) called Carlitos (local fisherman), who lives in La Salinera beach (local beach in which the classes take place), told me that many years ago he met four animals who were going to play in the sea. They were Mrs. Turtle, Little Penguin, Juancho the Lizard and Sal the Little Sea Wolf.		

	<p>This friend group, when going to the beach, found four surfboards, which sparked their curiosity, and they started to look at them. They realised that they did not belong to anyone and thought that the tide had brought them from a wavy place such as Hawaii or Peru (where we find the origin of playing in the waves).</p> <p>Little Penguin recalled a movie that he saw some days ago, The Kings of the Waves, and invited his friends to play with the boards. Each of them took one and thought of a way of surfing the wave (what do we think about going to grab our own?). Then, assume positions in one of the boards that will be forming a round.</p>		
Central Part			
<p>Game</p> <p>“Animal Surfers”</p> <p>Estimated time</p> <p>40 minutes</p>	<p>PART 1</p> <p>These friends started to think about how they could use the boards, the first one being Mrs. Turtle. She decided to strongly row with her fins (first one and then the other) so the wave would quickly drive her, and, when the board reached high speed, she would stay still. When she tried, the rowing was very useful, as the foam pushed her, but then when she stayed still, the wave rolled her.</p> <p>PART 2</p> <p>Then, Sal the Little Sea Wolf wanted to try, and, realising that rowing worked for Mrs. Turtle, he started in the same way, but when the wave carried him, he decided to raise his chest and head towards the sky, stretching his front fins. The Little Sea Wolf, instead of falling and rolling, slid through the wave towards the shore successfully (Image 3).</p> <p>PART 3</p> <p>Juancho the Lizard loved what Sal did, he rowed like his friend Mrs. Turtle but decided to slide over the wave in his way, so he not only raised his head and chest, but also his belly and legs. He swiftly arrived at the shore.</p>	<p>Surfboards</p>	<p>Round made of surfboards</p>

	<p>PART 4</p> <p>Little Penguin was very happy for his friends, they were doing amazing, and now that it was his turn, he rowed like his friend Mrs. Turtle, combined it with the movements of Sal and Juancho, and lastly, he decided to jump high and ALOHAAAA, he stood on the board and arrived at the shore, sliding through the foam. What an amazing job of Little Penguin!</p> <p>Aquatic activity – surfing like the tale We invite them to try the boards in the water (shore), to choose how to slide, recalling Mrs. Turtle, Sal the Little Sea Wolf, Juancho the Lizard and Little Penguin.</p>		
Final Part			
<p>Closing and registering of the dynamic</p> <p>Estimated time 10 minutes</p>	<p>Photo while doing the same positions as the animal in the tale that they liked.</p> <p>So the activity can be more inclusive, you can use images of the marine animals doing the positions that are being encouraged.</p>		<p>In line, holding hands.</p> <p>Forming a round.</p>

Lesson with a predominance of the environmental education dimension of aquatic competence

In this class, we tackle “Environmental Education – Socio-Affective Area) (knowledge, know-how) so that the children can start to learn how the coastal area is built and how important each element in this fragile ecosystem is, considering that knowledge is key to connect with the surroundings and generate a caring feeling.

Group: Infants who attend the Surfing Academy.
 Context: Connecting with the coastal-marine environment and initiating playing with waves class.
 Total duration of the class: 60 minutes.

Objectives

- Exploring the elements of the coastal area to start to know it.
- Befriending the sand and wind (elements that tend to generate rejection).

<ul style="list-style-type: none"> Starting to understand that playing in the waves does not only depend on the waves themselves (but there are countless natural elements that impact) 			
Name of the activity	Development	Materials	Organization
Initial Part			
Welcome round of interaction “Little grains of sand” Estimated time 10 minutes	Meeting point on a dune that is safe from the wind. Shooting questions: Have you been to the beach in the past days? How is the water? Have you played in the waves? Apart from the water and the waves, what other things do you find on the beach? If someone says sand, dunes/sandbanks, wind, etc., we will take their word to continue talking about it. Follow-up questions: In which parts of the beach do we find sand? Why do you think that there is sand underwater, but also where we play and make sandcastles and in the dunes? Explain why this happens in a brief and easy to understand way.		
Central Part			
Game “Little grains of sand” Estimated time 40 minutes	In this game, there will be four characters: the little grain of sand, the drawing pasture, the wind and the dune. The game consists of simulating what the little grains of sand do to form the dunes. Presenting the characters: <u>The little grain of sand</u> : they form a ball and stay still. Assume the role of a teacher/instructor and demonstrate. <u>The wind</u> : another teacher assumes the role, and they will pretend to be the wind, opening their arms and making a blowing noise. They will take the little grains to different parts of the beach (from the water to the lower part of the beach, then to the upper part, to the dunes, and lastly, they will return to the water). The drawing pasture: another teacher assumes the role, and they will participate when the little grains start arriving at the dune. This pasture lives in	Surfboards	Round made of surfboards

		the dunes and will be in charge of embracing the little grains to form the big dune that will be their home (group hug in the dune, and, if they feel comfortable with it, formation of a dune/pyramid).		
		After this dynamic, they are invited to play in the waves, jump in them, go under them and bodysurf. Then, they will run to exit the water and reach the dune, become grains of sand and return to the water.		
Final Part				
Closing and registering of the dynamic	and the	Talk under the gazebo, asking the participants if they would like their parents to surf and play with them in a class (in which the parents' participation will be used to highlight the importance of being close to the children while they are playing in the water).		
Estimated time				
10 minutes		Group photo as a dune and goodbyes.		

It is possible to consult some of the activities in: <https://youtu.be/BYs1la-YiOs>.



Conclusion



The link between playing, the aquatic environment and nature allows us to imagine and create significant experiences that accompany children in their holistic development. Thanks to He'e Nalu, we unlock a space in which body, emotions, and surroundings intertwine, giving space to deep learning that goes further than just motor skills, including also affective, symbolic and spiritual elements.

From this perspective, this resource is framed in an aquatic education proposal situated in a coastal community, in which the natural medium and games become pedagogical allies. Far from traditional approaches focused only on technique or performance, here, aquatic education is portrayed as a process of connecting with the surroundings, building confidence, trust and autonomy in the water, respecting individual rhythms and promoting enjoyable, experiential and significant practices.

Each game, tale and dynamic designed aims to not only promote the development of motor skills, but also to enhance aquatic literacy to children in real contexts, encouraging their ability to interpret and respond to the conditions of the marine environment, to acknowledge risks and to act responsibly. This literacy is articulated with contents of drowning prevention and environmental education that allow one to understand that playing in the water is not only a leisure activity, but also an opportunity to form conscious, empathetic and attentive citizens.

Moreover, the ancestral and communitarian character of surf is rescued, not as an exclusively sportive activity, but also as an experience that connects with the cultural memory of water and a way of inhabiting the world in harmony with nature. He'e Nalu, understood as a sliding culture, invites us to flow with life and recognise that we are part of an alive and undulating network of relationships.

To sum up, playing in the waves is transformed into a door that leads to a vital education: learning to be in the water, in nature and with others, from an approach of enjoyment, safety and respect. This is an opportunity to form sensitive, curious and free children who are connected to their surroundings.

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