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Techniques for Teaching Swimming to Seventh Graders

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TECHNIQUES FOR TEACHING SWIMMING TO SEVENTH GRADERS

A thesis submitted to the Graduate Faculty of Western Michigan College in partial fulfillment of the requirements for the Degree of Master of Arts.

by
Ernest L. Mary
Western Michigan College
July, 1955
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— Ernest L. Mary
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CHAPTER I
The Problem and Definition of Terms

Introduction

For many years a difference of opinion has existed with respect to the relative effectiveness of the various methods of teaching swimming to beginners. During World War II, Shea¹ said that the average percentage of non-swimmers in all military centers was thirty-five percent. The latter situation may be related more or less directly to the former.

The Problem

Statement of the Problem. It was the purpose of this study to (1) compare several different methods for teaching swimming to seventh-grade boys; (2) show that the fundamental skills in beginning swimming are a definite part of the beginners' learning pattern; and (3) determine, by means of a questionnaire, certain aspects of swimming instruction in some secondary schools in Michigan.

Importance of the Study. It is generally recognized that it is of great importance for all persons to learn to swim. Kiefer and

Gabrielson\(^2\) says that (1) swimming provides relaxation and fun; (2) swimming builds strong bodies; and (3) swimming saves lives.

Sheffield\(^3\), with respect to the values of swimming, makes the following statement:

"Let us consider the subject from the viewpoints which are most appreciated, that of pleasure and sociability. It is one of the best activities for bringing spontaneous joy to the individual, for it can be indulged in by all ages, men, women and children alike. Swimming and its allied branch of water sports furnish wholesome and natural forms of exercises. Those who can swim have but to review the keen pleasure derived from this sport. By properly supervising swimming the highest ideals may be inculcated, such as courage, self-confidence, leadership, a democratic spirit, good sportsmanship, self-sacrifice and heroic service. These ideals form a vital part of one's training for citizenship. From a physiological standpoint, swimming is one of the most healthful exercises for symmetrically developing the body, for by strengthening the entire system it tends gradually to establish normal proportions, and well co-ordinated movements in swimming contribute toward relaxation and power, while in diving grace and poise are fostered. Through this activity the lung capacity is increased, the circulation stimulated and digestion improved."

The values of swimming are of course not isolated to one grade level. In fact, it may begin in kindergarten. If it is not taken up in early years, youthful fears remain and must be overcome. It should be pointed out also that it involves more than competition. Its health

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\(^2\)Kiefer, Adolph; Gabrielson, Milton A; and Brawell, W., Learning to Swim in 12 Easy Lessons. New York: Prentice-Hall, Inc., 1951. Pp.6-8

value should be stressed as well as its value after graduation. These points are clear in the following statement from Lipovetz:

"In terms of its contribution to the physical, mental, and moral welfare of students, swimming takes high rank as an activity for great potential educational importance. As a form of all-round exercise, it has far reaching physiological significance, as well as specific values in the development of strength and endurance, grace and co-ordination, which tend to establish early in life a positive condition of health which should be a treasured resource in later years.

But no form of physical education that is worth serious consideration for inclusion in the school curriculum should seek justification, for the whole activity is permeated by a recreative instinct which carries in its train an enthusiasm for achievement, an intensity of interest, and an emotional appeal which pay large dividends on the mental side in those attitudes and appreciations which lie at the very foundation of all worth while, enduring education.

On this, as a basis, should be built habits of persistence, of doing one's best, of competing with one's own self, without ethical limitation — and this in a sport where the danger of exhaustion is relatively small in proportion to the effort expended — habits of self-subordination and co-operative endeavor, of courage and confidence and self-control, which unlock hidden resources of power and release them as instruments of individual development increasing respect for personality, and enhancing capacity for service."

Another point is that swimming is an excellent activity for the physically handicapped. Specialists have recommended that children

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suffering from infantile paralysis swim. In addition to its therapeu-
tic value, it contributes to mental health especially when it is
indulged in with a congenial group. Again Lipovetz's stresses this
point as follows:

"Swimming may help to make people healthier because it
is a sport widely available even in winter; it requires
very little equipment; it requires the vigorous use of
large muscles and many muscles; because it gives exer-
cise to the abdominal muscles; because certain strokes,
particularly the breast stroke, probably tend toward
improved carriage of head and shoulders; and because
swimming is fun."

In brief, then, it would seem that swimming has value for both
the physical and mental well-being of individuals of all ages.

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Lipovetz, Ferd John, citing Reed, Dudley B., The Teaching and
Coaching of Swimming, Diving and Water Sports. P.5. Minneapolis,
Minn.: Burgess Publishing Company. 1941.
DEFINITIONS OF TERMS

For the purposes of this study the terms that are underlined below will be construed as having the following connotations:

Dog Paddle. The dog paddle stroke is popular because it is a natural stroke and the head is out of water. The arms and feet are kept underwater during the entire stroke. The boy stands in chest deep water then pushes from the bottom with the feet — reaching forward with the right arm and then with the left pulling forward with the fingers cupped. The flutter-kick, described below, is used. Some boys will try to keep their heads too high and will cause their feet to sink. The secret in this stroke is to relax. Seaton recommends the dog paddle, sometimes called "human stroke", as the stroke that is generally taught beginners, because it comes nearer to approaching the natural motion that most beginners would use if placed in the water and told to swim.

Floating. Starting while standing in smooth water, chest-deep, the float is first tried in the prone position with the arms extended forward close to the head. The boy should always be facing shallow water. The feet are straight back, not rigid, with the toes fully extended. The head is down in the water with the eyes open. This is the dead man's float.

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Seaton\(^7\) says: "In true floating, a person is able to remain in or on the water for an indefinite period without any movement of the body."

**Beginners' Swim Test.** This is a standard test, for beginners in the Lansing Public Schools (Junior Highs) negotiate one width of pool (24') without touching bottom.

**Student Instructors.** Instructors are 8th or 9th grade students that are better than average swimmers, many of whom have had some work in techniques of life-saving.

**Flutter-kick.** (inverted) The swimmer lies on the back with arms at the sides and feet extended with toes pointed. He alternately kicks the legs from the hips with the toes pointed. The feet move approximately their own length. This is a land drill and not a water drill.

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Organization Of The Thesis

CHAPTER II will deal with the materials used and will describe the students with whom the investigator worked. It will deal also with the intelligence quotients of the students, their abilities, body types and any physiological or psychological characteristics that may influence their learning.

CHAPTER III will be concerned with the evaluation of four techniques employed and the results of each individual's performance. The four techniques are as follows:

(1) As a starter Kiputh recommends the elementary back-stroke. It is a pattern stroke that can be learned step by step without extra motion and is relaxed and graceful. The face is never in the water, so there is no problem with breathing. The student is in water up to his armpits. The stroke is not strenuous yet the beginner can synchronize his arms and legs since he pauses at the end of a complete stroke of the arms. He further recommends that the use of the elementary arm stroke be accompanied by an inverted flutter kick while learning. This may be changed, later, to a frog-kick.

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(2) The second beginning technique is suggested by Douglas\textsuperscript{9}.

This procedure is done by use of swim fins. He says:

"Much has been written about the use of swim fins for swimmers at the competitive level and again of their value in increasing a rescuer's speed and power on the lifesaving level. Now, I suggest the use of swim aids (specifically: fins and kickboard) at the beginners' level and shall list simple natural progressions to present to the learner. I have conducted experiments for the past five years, which have included more than five hundred persons of varying ages, both men and women. My experimentation along this line reaffirmed my original thought, namely that a successful method of teaching beginners swimming could be devised which more nearly coincided with modern techniques in similar fields, where such words as "whole vs. part method", "paced learning" and "motivation" constantly appear.

This method has a new and natural adaptability since it combines the psychologically sound principles of experience, with the elementary factors of swimming.

These first three aforementioned factors are overwhelming in importance to this type of beginner, and serve the instructor well as a vehicle in combating defeatism on the part of the learner. The instructor insists that the beginner himself can feel his progress from the first step of merely propelling himself on the surface to acquiring speed, power, and confidence with each succeeding effort.

I have worked in the belief that, where an immediate success response to a skill item is experienced, or some pleasantness in the form of actual progress is visible to the learner, the value of such experience is immeasurable in motivating the learner to intensify his efforts and to increasing his confidence, thereby speeding up the learning process and predisposing further success. Success in an activity further is. The person so succeeding applies more energy and the total organism responds biologically."

(3) The third technique is the side stroke, sometimes called the underwater side stroke, because the arm recovery is underwater for both arms. This is a resting stroke and uses the body's natural buoyancy

\textsuperscript{9}Douglas, Clarence B., \textit{Motivating Swimming Beginners With Swim Fins}. New York: Beach and Pool Annual. (October 1943) P. 23.
for its gliding motion, and the face is not subjected to a great
deal of water. The leg-stroke or kick used in this stroke is the
scissor-kick. Seaton\textsuperscript{10} says the side stroke is not difficult to
learn, and it does have great value in all types of swimming except
competitive swimming. It is probably the most universally well-
executed stroke of all and is widely used in life-saving.

(4) The fourth beginning swimming method will be by means of
the human stroke or dog paddle. Land drills will be used first,
and the first lessons will be used to try and get what Mann\textsuperscript{11} calls
"water balance". Then the beginner will walk in the water and after
a sense of balance try to get the feet up while the instructor is
always out of the water so that he can see all at once. Mann\textsuperscript{12}
states further that "a talking instructor" is best because it will
center the beginners' attention on the instructor and not on the
beginners' actions. The learners' tension can be eased by jokes and
anecdotes.

CHAPTER IV will describe development and dissemination of the

\textsuperscript{10} Seaton, Don Cash, and others, Physical Education Handbook. New

\textsuperscript{11} Mann, Matt II and Fries, Charles C., Swimming Fundamentals. New

\textsuperscript{12} Ibid.
questionnaire. The purpose of the questionnaire is to discover how other swimming instructors carry on their beginning swimming program.

CHAPTER V will summarize the findings and present conclusions and recommendations.
CHAPTER II

Grouping the Students

The Problem

The purpose of this chapter is to describe (1) the manner in which the students were divided into four groups and (2) the characteristics of the boys in them.

Methods Employed

In order to group the boys the following procedure was used:

All boys enrolled in physical-education classes were asked if they knew how to swim. All those that said they could not were enrolled in the "learn-to-swim campaign". Not all of the beginners were found by this method, however, since every boy is required to swim once a week, the instructors made an additional check of non-swimmers. By these means thirty-five non-swimmers were located later. The non-swimmers, who entered school late, were added.

The pool is sixty feet in length and twenty-four feet wide and divided by black lines into quarter sections. These quarter sections are each fifteen feet by twenty-four feet. The deep end of the pool is six feet six inches in depth at the end but tapers rapidly to nine feet in depth fifteen feet from the end of the pool. The remaining forty-five feet taper gradually to three feet eight inches. Beginning swimmers are not allowed to swim beyond the fifteen foot black line. The depth of the pool at this black line is five (feet six inches)
feet six inches.

The groups that were formed were distinguished from one another thus:

Group I used no artificial aids. Group II used swim fins, there being five sets of these to be shared. This group also used spongeto flutter boards of which there were sixteen. Group III used no artificial aids. Group IV used nine inner tubes for scooter bikes, about eighteen inches in size. The thirty-seven students were then allocated to these four groups so that the general characteristics of all groups were the same.

The classification of the boys in their various groups with respect to intelligence quotient, motor abilities, swimming potential, body type, and any other physiological or psychological difference which might have a bearing on their learning to swim follows:

Group I

1. Jim, a fair swimming prospect, who was thirteen years old in May, 1955 and his IQ is 109. He is four feet ten and one quarter inches tall and weighs ninety pounds. Jim transferred from a small town in which he had skipped from the sixth to the eighth grade. However, he is physically a seventh grader. He is well built and has good motor ability but he lacks confidence.

2. Ron is a fair swimming prospect with an IQ of 110. He is small, being but four feet four inches tall and weighing fifty-nine pounds. He is immature but is enthusiastic about learning to swim.
He is twelve years old but would give the impression of being younger.

3. Jeff rates as a fair prospect in swimming. He is four feet eleven inches tall and has an IQ of 113. He weighs seventy-seven pounds and is underweight. He is frail, non-athletic, shy and afraid of the water. He is twelve years old.

4. John is a very poor swimming prospect. He came to the school from a rural area and has never lived in the city. He weighs one hundred and thirty pounds and is five feet seven inches tall. He is "muscle-bound" but has a great desire to learn to swim. He is fourteen years old.

5. Bob is an average swimming prospect with an IQ of 103. He was thirteen in June, 1955. He is four feet seven inches tall and weighs eighty-four pounds. He dislikes water. He is surly, antagonistic, and seems to lack incentive. He does not seem to like school or teachers.

6. Ruben is the big boy of the group, being five feet nine inches tall and having an IQ of 96. He weighs one hundred and twenty-eight pounds and is of Mexican descent. He is tall, athletic, and will be fifteen when the semester closes. His attitude is excellent. His parents are strict with him and his most respectful to his teachers.
7. Ron rates as a poor swimming prospect. He is five feet seven inches tall and weighs one hundred and fifty-three pounds. His IQ is 55 and he is fifteen years of age. He is tall, slightly obese, and appears to be lazy. This may be due to a thyroid deficiency.

8. Dave is a blond-haired boy who seems to enjoy life and wants to learn to swim. His IQ is 101. He will be thirteen in September, 1955. He weighs eighty-seven pounds and is four feet eleven inches tall. He has good motor ability.

9. Garry is a difficult boy to teach to swim since he is the only one repeating from last semester. He was placed in this group because he had a hard time kicking while in a prone position. His feet move his body backwards while his arms attempt to propel him forward. As a result he sinks. His IQ is 102. His height is four feet ten and one-half and he weighs seventy-eight pounds. He will be thirteen in August. He is a good all-around athlete.

Group II

1. Gene, a Chinese boy, has an IQ of 104. He was born in China, is four feet seven and a half inches tall and weighs seventy-two pounds. He tends to be afraid of water. He is thirteen years old. He is more scholarly than athletic and speaks English very well.

2. George is a Mexican with an IQ of 69, however he has American features. He was promoted to the seventh grade because of his age.
fifteen in September, 1955. He is small for his age and under-nourished. His poor diet, improper rest and many other poor health habits are a burden to him. The family has an alcohol problem.

3. Robert is four feet five inches in height and weighs seventy pounds. He is thirteen years old and has an IQ of 103. He is a good athlete despite his lack of size. He has determination but is just a fair swimming prospect.

4. Jeff is a bright boy with an IQ of 118. He is four feet six and one-half inches tall and weighs seventy-five pounds. He is athletic and behaves well. He is above average as a swimming prospect but is small in stature.

5. Jim has an IQ of 91 and was thirteen in May, 1955. He is four feet eight inches tall, sixty-seven pounds and strictly a non-athlete. He is a poor swimming prospect.

6. Benny is a boy from Kentucky with an IQ of 62. He is awaiting October, 1955 when he will be sixteen and he can quit his "book larning". He weighs one hundred and nine pounds and is five feet six inches in height. Both parents are deceased and he lives with an aunt. He is underweight and physically weak. He dislikes swimming.

7. Melvin has trouble hearing and wears glasses. He will be thirteen in October, 1955, and has an IQ of 106. His right ear has a thirty-five percent hearing loss while that of his left ear is sixty-five.
His doctor has told him he should learn to read lips. He is four feet nine inches tall and weighs eighty-eight pounds. He is not an athlete. As a swimming prospect he is poor. He walks with his toes out and seems to have foot trouble.

8. Reggie has an IQ of 93 and is four feet eight inches tall. He weighs one hundred and four pounds and will be thirteen in August, 1955. He is shy, timid and delicate.

9. Jim is thirteen years old. His IQ is 97. He is four feet nine inches tall and weighs seventy pounds. His father is Mexican and his mother is blue-eyed, blond and from Tennessee. This boy is bow-legged, tough, rugged and loves to fight. He thinks he can swim and is determined to prove it. During his preliminary testing he was "fished out" three times from the deep end of the pool. He is a trouble maker. He will learn to swim as he wants to dive off the board like the swimmers do.

Group III

1. David was thirteen in July, 1955 and has an IQ of 100. He is five feet two inches tall and weighs ninety-seven pounds. He is color blind. His athletic ability is above average and he has no physical handicaps. He is a poor swimming prospect.

2. Ron is one of the poorest prospects of all. His two older brothers were the last in their respective groups to learn to swim.
This apparently affects him psychologically. He is strong and a good athlete. He weighs sixty-nine pounds and is five feet in height. He will be thirteen in November. His IQ is 100. His parents cannot swim and they remind him of this often. This has produced a fear in him.

3. Ralph has an IQ of 89, is four feet seven inches tall and weighs seventy-one pounds. He had polio when he was seven and his right arm is deformed. In Ralph's CA-39 one of his hobbies is listed as swimming. He is determined to overcome his handicap and become a swimmer. He is a good prospect.

4. Lewis is thirteen years old and weighs one hundred and seventy-eight pounds. His IQ is 76. This boy was a serious behavior problem in grade school. His left arm is deformed — the shoulder nerve being pinched at birth. He favors this arm. He tends to be a bully. He is five feet five inches tall and a poor swimming prospect.

5. Charley has an IQ of 68 and was fourteen in August, 1955. He weighs only sixty-eight pounds and is four feet nine inches tall. He is underweight, undernourished, small for his age, and rates as a very poor swimming prospect. He gets lost in the locker room, cannot open his lock, and has trouble finding the swimming pool.

6. Jerry is a well-behaved boy. He is four feet nine inches tall and is a neat dresser. He is twelve years old. He has an IQ of 120 and he weighs seventy-eight pounds. His physical condition is excellent.
He is a good swimming prospect.

7. Louis is twelve years old. His physical development is retarded. His IQ is 121. He is five feet five inches tall and weighs one hundred and sixteen pounds. He is awkward and not inclined athletically.

8. Terry was thirteen in November 1955. He transferred from a parochial school where his progress was poor. His IQ is 107. He weighs one hundred and two pounds. His height is five feet two inches. He has a stocky build. He is a good swimming prospect.

9. Calvin is thirteen years old and has an IQ of 115. He weighs seventy-five pounds and is four feet nine inches tall. He is a fairly good swimming prospect. He likes to be in the water.

GROUP IV

1. Chris has an IQ of 111. He is a big boy, weighing one hundred and thirty-five pounds and is five feet two inches tall. He is twelve years old and has a stocky, athletic build.

2. Richard is thirteen years old and has an IQ of 83. He weighs one hundred and forty pounds and is five feet four inches tall. He is clumsy, awkward and careless with his appearances.

3. Brian is twelve years old and the youngest boy in our group of non-swimmers. He is five feet tall and weighs seventy-six pounds. He
had polio in 1949 but shows no physical defects from this disease. His IQ is 111. He is a good athlete.

4. Tom is a poor swimming prospect. His IQ is 84. He weighs ninety-five pounds and is five feet one inch tall. He is strong physically.

5. Dennis wears glasses all the time. His IQ seems high at 104. He is five feet tall and weighs one hundred and twenty pounds. He is not an athlete. He likes to play in the water and is not mentally ready to learn how to swim. He is thirteen but very immature.

6. Walt is well-built physically and has an IQ of 118. His normal weight is eighty-five pounds and his height is five feet two inches. He is a good prospect for swimming.

7. Sam is the smallest boy in the program, being just four feet three and one-half inches tall and weighing sixty-two pounds. His IQ is 119. He tires easily and is not strong physically.

8. John is obese, weighing two hundred and eight pounds, and is slow in movement. His IQ is 146. He is five feet four inches tall. He is dependable but does not like any physical exercise.

9. Ron entered school February 28th, 1955. He is large for his age, being twelve, he weighs one hundred and ninety pounds and is
five feet six and one-half inches tall. He handles his weight well.

His IQ is 118.

10. Wilber entered school from Arkansas on March 14th, 1955.
His IQ is 68. He is fourteen years old, stands five feet five inches tall and weighs one hundred and thirty pounds. He is a poor prospect.
CHAPTER III

Evaluating The Four Techniques

The Problem

The purpose of this chapter is to evaluate the success of the various methods in teaching the students to swim.

Group I

Group I met every Monday after school from 3:10 to 3:45. The students used the elementary back stroke with a flutter kick. Land drills were used before the boys entered the water. The boys were told to sit on the cheeks of their thighs and point their toes outward keeping their ankles relaxed and to kick approximately ten to fourteen inches. During the first session floats were practiced with stress on the back float. The ten student instructors were in the water and had difficulty in keeping the boys "tails up" and relaxing. The arm stroke was easy to learn but when they started to try to swim on their backs the non-swimmers did not get their arms back far enough.

The beginning swim test is completed when a boy successfully negotiates the width of the twenty-four foot pool without touching the bottom or sides of the pool. Swimming the width underwater all the way is not allowed as having completed the test.

Jim tried the elementary back stroke for six nights and his
showing was so poor that he was asked to join Group IV. He joined Group IV and passed his test after a total of twelve nights in the water; the latter six nights being in Group IV.

Ron passed on the fifth night. His progress was quite remarkable, although he tired easily.

John was faithful and worked until he passed on the sixth night. His trouble was trying too hard. He could not seem to relax.

Jeff never missed a practice but it took him ten nights to pass.

Bob was truant on two occasions. He was absent from school and so missed three meetings in all. He passed the test on the fourth night he was present.

Ruben passed his test during the second practice session. He has become quite a swimmer since he passed his beginning test and may make the varsity swimming team another year.

Ron was always on time and present but he had trouble in co-ordinating his hands and feet. Six nights were required for him to pass.

Dave never missed a practice session but was malingering after two sessions and it took him five nights to pass.

Gerry never missed a practice and worked hard. He passed after four nights. On his last night he passed the test using a "dog paddle".
The boys in Group I, with the exception of Jim who was transferred to Group IV, passed the requirements in 5, 10, 6, 4, 2, 6, 5 and 4 nights. It took them on average five and one-quarter practice sessions to pass their tests.

Group II

Group II shared five pair of swim fins and an adequate supply of flutter boards. There was a tendency on the parts of the students to play around with the swim aids. The swim fins were new to the boys and each had to try them out in his own way. This "playing around" was tolerated because it was believed that by these methods the boys were overcoming their fear of the water. Although the swim fins seemed to exaggerate their faults, they definitely helped to correct the kick. This group met every Thursday from 10:30 to 11:05 A.M. There were no absences from class at any time. However, one boy missed his swimming class on three different occasions because of indifference.

Gene was loyal to his swimming group. He cut his foot severely enough to require several stitches but, nevertheless, he was always present in his street clothes watching and learning while the others swam. He passed after being in the water nine times.

George had a poor kick and his arm stroke was not much better. He learned slowly and forgot rapidly. It took him thirteen days to pass. However, he was encouraged by the rest of the class. He has improved since his first lessons and now swims over one hundred feet.
and uses the diving board.

Bob was so afraid in the water that he would not leave his flutter board. He held onto the board constantly. When nine boys and their ten instructors were in the water it was hard to find Bob because of his size. This problem was solved by giving him a red flutter board and using all blue and white ones for the rest. He did not like the fins. Like most of the boys he would keep his mouth open and his eyes closed tight. He was always trying and passed after nine morning sessions.

Jaff was enthusiastic with a big smile and much determination. He passed the test in only three sessions.

Jim was a slow learner and required eight practice sessions to learn to swim. He was constantly trying — never gave up.

Benny was never absent from school during the swim tests, although he missed three swimming sessions because he did not want to go swimming. After this occurred he was observed closely in the locker room and he did not miss any more swimming lessons. He passed after nine sessions.

Melvin enjoyed using the swim fins and it was difficult to get him to remove them. His hearing difficulty did not seem to hinder him in his swimming progress. He took eight sessions to pass his test.

Reginald took nine sessions to pass the swim test. He seemed to
be in no hurry to pass. He did not work well at it.

Jimmy, with his superior confidence, made it after six sessions. He does not swim in a straight line but rather like a snake. He swam underwater and passed the test in this after three meetings. This, however, was not allowed.

The boys in Group II passed their tests in 9, 13, 9, 3, 8, 9, 8, 9 and 6 days respectively. This is an average of eight and two-ninths days.

Group III

This group met on Wednesday from 3:10 to 3:45 P. M. The side stroke was taught with either arm extended forward and the formula used was stroke-kick-glide. Land drills were used first and the scissors kick was shown on the side of the pool. The arm stroke was shown in the water only. The kick was a scissors kick with the top foot moving forward and the lower foot moving backward with the feet never crossing one another. There were two boys in this section with deformed arms and it was believed that they could do better with this stroke than any other.

David was ready mentally when he started and with effort he made the width after seven sessions in swimming.

Ron was not mentally ready to learn to swim because of his fear complex established in him by his family. He was poor in the water.
His progress was extremely slow, however, he was given much patience, kindness and encouragement. For three weeks he stood in the corner of the pool and watched the other boys. It was expected that on the following night he would not be there but he never missed once. It took him thirteen nights to pass.

Ralph was a fine boy to work with, being eager, quiet, punctual and energetic. He swam on his right side with his withered right arm up. It was hard work that enabled him to graduate after six nights in the water.

Louis did not want to learn to swim on his side but wanted to use the human stroke. However, he passed on the side stroke after seven nights. He was truant twice and as a result was escorted to the pool each evening.

Charley worked hard and finally despite his lack of capabilities passed in ten nights.

Jerry was a bright youngster and enjoyed having someone spend their time to teach him how to swim. He made it on the fifth night.

Louis was pushed by his parents to learn to swim so that he could go with them to their cottage during the summer. He was trying too hard the first two sessions but he began to relax and passed on the sixth night.
Terry passed the requirements after seven sessions.

Calvin made a successful swim after six nights in the pool. He was always the first one in and the last one out.

This group attended very well for an after-school group. They passed their tests in 7, 13, 6, 7, 10, 5, 6, 7 and 6 nights, respectively, for an average of seven and four-ninths nights.

Group IV

Group IV used the inner tubes from scooter bikes. These were placed around the mid-section of the boys. The stems were covered with two-inch adhesive tape so that they would not scratch the boys or irritate them. Tubes were placed on the boys the first night before they entered the water and they were encouraged to paddle around in water that was over their heads. Student instructors stayed out of the water and when mistakes were noticed, they were quickly spotted and the necessary correction was made. On the second and third nights the tubes were removed. Time was spent on the flutter kick with each boy holding on to the edge of the pool trough with his left hand and his right hand facing downward and flat against the side or end of the pool about six inches from the top of the water. After the second night the last fifteen minutes were used to try to swim without the tubes on. This group met on Friday after school from 3:10 to 3:45 P. M.
Chris passed his test quickly requiring only fifteen minutes. His kick needed correcting. He stayed for the full thirty-five minutes and swam the sixty foot length then.

Dick had influenza for the first two meetings. His progress was slow. He made it after eight swimming lessons.

Tom was poor in swimming and never really tried until Dick made it and then he worked hard. He made it on the fourteenth night. Dick was considered the poorer prospect of the two at the start but Tom in the long run was the poorer.

Brian was not satisfied at being in a beginning swim group and passed the second night.

Dennis was watched closely since he fell in the deep end once. At first he seemed hopeless. He passed, however, after seven sessions.

Walt passed the test in two nights just missing the first night.

Sam was "out for a good time" and was angry when he passed on the fourth night since he could not swim with the beginning group any longer.

John took four nights. It seemed slow to him, however, since he was able to float well, especially using the dead man's float.
Ron entered late being a transfer from another school, but passed in three nights.

Wilbur was truant three nights and found many reasons for staying out. His stomach hurt, the water got in his mouth, water got in his eyes, water made him have an upset stomach, he was "lergic" to chlorine, and his head ached. After a talk with his parents, Wilbur did not miss any more swim lessons. He passed in five sessions.

Group IV boys passed their tests in 1, 7, 2, 14, 7, 2, 4, 4, 3, 6 and 5 days, for an average of five sessions per boy.
CHAPTER IV
Developing and Dissiminating the Questionnaire

The Problem

The purpose of this chapter is to describe (1) the development of the questionnaire, and the manner in which it was sent out, and (2) the results that were obtained.

Methods Employed

The next step in the study was to elicit the opinions of a number of swimming instructors concerning their practices for teaching swimming. For the information needed, it was decided to use a questionnaire. The use of a questionnaire for this purpose is supported by Good, Barr and Stites\(^\text{13}\) as follows:

"The questionnaire is an important instrument in normative-survey research, being used to gather information from widely scattered sources. It is probably outranked in frequency of use only by the survey test... The questionnaire procedure normally comes into use where one cannot readily see personally all of the people from whom he desires responses or where there is no particular reason to see them personally. The questionnaire may be used over any range of territory."

Fifty questionnaires were mailed to junior-high-school swimming instructors in the State of Michigan, excluding Detroit, Michigan.

The names were received from Mr. Dave Arnold, Assistant State
Director of Athletics, Department of Public Instruction, Lansing,
Michigan. Forty questionnaires were returned.

The next step was to develop a tentative form of question-
naire for the purpose intended. This was submitted to the author's
advisor for suggestions. From these procedures a final questionnaire
was developed, a sample of which follows, together with copies of
cover letters sent with it.

Please return in the
stamped envelope to
Ernest L. Mary
Pattengill Jr. H. S.
Lansing 12, Michigan

Methods in Beginning Swimming.

Please answer all of the following questions in the appropriate
manner. All replies will be kept strictly confidential. You need
not sign your name.

A. Personal and School Data.

1. How old are you? ______.

2. For how many ears have you taught swimming to beginners? ______.

3. About how many boys are enrolled in your school? ______.

4. Approximately how many students do you teach to swim in a
year? ______.

5. About what percentage of your students take swimming? ______.

6. About what percentage of your students learn to swim? ______.

B. Psychology and Swimming.

1. Do you believe that fear of water is a normal reaction? Yes ___ No ___.
2. Do you believe that breathing is the major problem to overcome in teaching a seventh-grade boy how to swim? Yes _____ No _____.

3a. Have many of your worst "psychological fear" cases been scared by having a narrow escape in the water? Yes _____ No _____.

b. Do you always believe their stories about near drownings when they tell them? Yes _____ No _____.

C. Methods.

1. Do you think that any child that can hold his head underwater and hold his breath for five seconds with eyes open is ready to learn to swim? Yes _____ No _____.

2. a. Have you ever forced a difficult beginner (one that seems to be making no progress) to dive off the edge of the pool or diving board in water over his head? Yes _____ No _____.

b. If you have, do you believe that you have accomplished anything by these methods? Yes _____ No _____.

3. Do you believe in giving praise freely and loads of encouragement at all times and "using the pat on the back" method to be one of the better methods to help beginners? Yes _____ No _____.

4. Do you ever discourage beginners hoping to have the opposite effect on them and have them go to work? Yes _____ No _____.

5. Have you ever used the side stroke as a means of teaching beginning swimming? Yes _____ No _____.

6. a. Have you ever used the elementary back stroke and the flutter kick as a beginning swim method? Yes _____ No _____.

b. Would you prefer the elementary back stroke with the regular frog kick? Yes _____ No _____.

7. Have you ever used the orthodox or conventional breast stroke as a beginning swim stroke? Yes _____ No _____.

8. In the flutter kick do you try to keep the feet underwater? Yes _____ No _____.

9. Do you have trouble in teaching beginners to keep their knees from being used in a downward motion and making forward progress difficult? In other words, the boy does not kick from the hips but is what is called a "knee-kicker". Yes _____ No _____.
10. In the kick, do you teach that the ankle must be relaxed and flexible to avoid tenseness in the leg? Yes _____ No _____.

D. Aids.

1. a. Have you ever used artificial means to aid in teaching beginning swimming? Yes _____ No _____.

   b. Are you using them now? Yes _____ No _____.

2. In the category of learning to swim aids would you add any to this list and check those you have used?

Flutter boards (wood) _____ Water wings _____
Flutter boards (sponge) _____ Swim Fins _____
Flutter boards (rubber) _____ Underwater masks _____
Scooter bike size inner tubes _____ Life jackets _____
Regular tire size inner tubes _____ Others, please state _____ _____ _____

N. Miscellaneous.

1. How many lessons do you think should be required to teach a seventh-grade boy how to learn to swim? Learning to swim means successfully completing twenty-four feet without touching the bottom or side. How many lessons? _____.

In the remaining space will you write anything you wish concerning teaching beginning swimming. Your time and consideration is appreciated. Would you like a copy of the results of this questionnaire? Yes _____ No _____.
May 2, 1955

Dear Educator:

A skill such as swimming is recognized as being almost essential for all persons. Like all skills it must be taught successfully. The most successful techniques are still a matter of debate. Mr. Ernest Mary is trying to resolve the issue and hence is requesting your cooperation in filling out the questionnaire.

This office is strongly endorsing his efforts and will appreciate greatly any cooperation he is given.

Sincerely,

George G. Mallinson
Director of Graduate Studies
May 9, 19__

Dear [Name]

As an instructor in swimming you are no doubt aware that there is a great deal of controversy concerning the teaching of certain fundamentals of swimming to boys. In all probability there are certain fundamental skills that need to be learned early although they may be taught by a number of methods.

This writer is interested in determining what methods may be used effectively in teaching swimming and if possible in disseminating the findings throughout the state of Michigan. Specifically, this study deals with the teaching of beginning swimming to 7th graders by four different techniques. Your experience as a swimming instructor will be of great value in this study and hence a questionnaire together with the return envelope is being sent you. Your aid is sincerely requested in responding to this questionnaire.

It is only through help of persons such as yourself that the study can be completed. Rest assured that the replies will be kept confidential and that a copy of the results will be made available to you if you so choose. Thanking you for any help you can give us.

Sincerely yours,

[Signature]

Ernest L. Mary
Tabulations

The responses to the questionnaire are summarized in the tables that follow. For convenience the tabulations have been made according to the questions on the questionnaire.

TABLE I

Personal and School Data

<table>
<thead>
<tr>
<th>Question</th>
<th>Number Reporting</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>How old are you?</td>
<td>40</td>
<td>37 years 7 months</td>
</tr>
<tr>
<td>For how many years have you taught swimming to beginners?</td>
<td>40</td>
<td>10(\frac{1}{2}) years</td>
</tr>
<tr>
<td>About how many boys are enrolled in your school?</td>
<td>32</td>
<td>565 boys</td>
</tr>
<tr>
<td>Approximately how many students do you teach to swim in a year?</td>
<td>37</td>
<td>73</td>
</tr>
<tr>
<td>About what percentage of your students take swimming?</td>
<td>40</td>
<td>95%</td>
</tr>
<tr>
<td>About what percentage of your students learn to swim?</td>
<td>38</td>
<td>91%</td>
</tr>
</tbody>
</table>

The average instructor having had ten and one-half years' experience seems to be well experienced to teach beginning swimming. The fact that ninety-one percent of all boys learn to swim indicates the breadth of the program.
Table II contains information about certain emotional responses of beginning swimmers:

**TABLE II**

Psychology and Swimming.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>No Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you believe that fear of the water is a normal reaction?</td>
<td>25</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>2. Do you believe that breathing is the major problem to overcome in teaching a seventh-grade boy to swim?</td>
<td>24</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>3. a. Have many of your worst &quot;psychological fear&quot; cases been scared by having a narrow escape in the water?</td>
<td>19</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>3. b. Do you always believe their stories about near drownings when they tell them?</td>
<td>11</td>
<td>20</td>
<td>9</td>
</tr>
</tbody>
</table>

Question 1 is probably a rather difficult one to answer. Swimming instructors generally believe that anyone who can walk can learn to swim. Perhaps some of their students were forced to try to swim in water over their heads at an early age or became frightened for one reason or another.
Table III deals with various methods used by the instructors in teaching beginning swimming.

**TABLE III**

**Methods.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you think that any child who can hold his head underwater and hold his breath for five seconds with eyes open is ready to learn to swim?</td>
<td>32</td>
<td>8</td>
</tr>
<tr>
<td>2. a. Have you ever forced a difficult beginner (one who seems to be making no progress) to dive off the edge of the pool or diving board in water over his head?</td>
<td>2</td>
<td>38</td>
</tr>
<tr>
<td>2. b. If you have, do you believe that you have accomplished anything by these methods?</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>3. Do you believe in giving praise freely and loads of encouragement at all times and &quot;using the pat on the back&quot; methods to be one of the better methods to help beginners?</td>
<td>37</td>
<td>3</td>
</tr>
<tr>
<td>4. Do you ever discourage beginners hoping to have the opposite affect on them and have them go to work?</td>
<td>3</td>
<td>37</td>
</tr>
<tr>
<td>5. Have you ever used the side stroke as a means of teaching beginning swimming?</td>
<td>14</td>
<td>26</td>
</tr>
<tr>
<td>6. a. Have you ever used the elementary back stroke and the flutter kick as a beginning swim method?</td>
<td>26</td>
<td>14</td>
</tr>
<tr>
<td>Question</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>6. b. Would you prefer the elementary back stroke with the frog kick?</td>
<td>8</td>
<td>32</td>
</tr>
<tr>
<td>7. Have you ever used the orthodox or conventional breast stroke as a beginning swim stroke?</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>8. In the flutter kick do you try to keep the feet underwater?</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>9. Do you have trouble in teaching beginners to keep their knees from being used in a downward motion and making forward progress difficult. In other words, the boy does not kick from the hips but is what is called a &quot;knee-kicker&quot;.</td>
<td>34</td>
<td>6</td>
</tr>
<tr>
<td>10. In the kick, do you teach that the ankle must be relaxed and flexible to avoid tenseness in the leg?</td>
<td>37</td>
<td>3</td>
</tr>
</tbody>
</table>

Table III indicates that most of the instructors have not tried to teach beginning swimming by using the side stroke or orthodox breast stroke, the elementary back stroke with the flutter kick being used by twenty-six instructors. Fifty percent favored keeping the feet underwater in the flutter kick. Several instructors mentioned that the heels should just break the surface. Six instructors were not troubled with the so-called "knee-kickers".

All forty instructors stated that they have used aids to teach swimming. Thirty-six are still using them. The following list indicates the type of aid used and the number who use them:
Flutter boards (wood) 32  
Flutter boards (sponge) 24  
Small inner tubes 18  
Swim fins 15  
Water wings 14  
Life jackets 11  
Flutter boards (rubber) 10  
Inner tubes 8  
Underwater masks 8  
Rubber balls 6  
Rope 2  
Surf board 1  
Torpedo buoy 1  
Pennies 1  
Ping pong ball 1  
Weight on hands 1

The instructors thought that it would take a beginning swimmer slightly over seven nights to learn to swim. In this study it took an average six and one-half nights.
CHAPTER V

Summary, Conclusions, and Recommendations

The Problem

It was the purpose of this study to (1) compare several different methods for teaching swimming to seventh-grade boys, (2) show that the fundamental skills in beginning swimming are a definite part of the beginners' learning pattern; and (3) determine, by means of a questionnaire, certain aspects of swimming instruction in some of the secondary schools in Michigan.

Methods Employed

Thirty-seven boys in the seventh grade who could not swim were divided into four groups on the basis of a number of physical and psychological characteristics. Three groups had nine boys each, while the fourth had ten. The teaching procedures were as follows: Group I used the elementary back stroke with the flutter kick. Group II used the flutter boards and shared the use of five swim fins. Group III used the side stroke with either arm extended forward using a "stroke-kick-slide" pattern. Group IV used inner tubes from scooter bikes.

Conclusions

In so far as the techniques used in this study may be valid, the following conclusions seem justified:
1. A total of two hundred forty-one swimming sessions were spent by the thirty-seven boys in passing their beginning swim test of twenty-four feet. This is an average of six and one-half nights per boy. Group IV averaged five nights, Group I five and one-quarter, Group III seven and four-ninths, and Group II eight and two-ninths. One may conclude from this that the side stroke and the use of fins and flutter boards do not seem to be so successful as the other two methods employed. The small inner tubes and the "dog-paddle" and the elementary back stroke seem to be the better methods.

2. The elementary back stroke, once a boy overcomes his initial fears of swimming on his back and relaxes, is a satisfactory means to teach a boy how to swim. However, once a boy learns to swim on his back he ordinarily does not want to continue in this manner. This is disadvantageous since more time is required to teach him how to swim in a prone position.

3. It is evident from the results of this swimming study that intelligence is a factor in learning how to swim. However, a lack of intelligence, does not mean that a boy cannot learn to swim. The boy who is stocky in build can be taught more easily to swim than the slender type of boy, probably because of his buoyancy. The boys are hardest to teach who are the psychological fear cases. These boys are hard to get in the water. Their fears, either false or real, must be
overcome before they can master the art of swimming.

4. It is evident that success depends greatly on the boy's desire to learn to swim, a desire than doesn't always come early. In group classes there are inducements, such as having all the members of one's school able to swim. The values of group membership and pride in the group usually result in success.

Recommendations

Since learning to swim is a vital factor in the growth and development of well-adjusted boys, the following recommendations seem pertinent:

1. The data reveal that a boy can learn to swim on his back equally as well as on his stomach. Since individuals differ perhaps, some boys can learn to swim more quickly in this manner.

2. The data reveal the teaching of beginners to swim outside of class should be expanded and planned with opportunities for all to participate according to their abilities, capacities, and desires.

3. The data reveal that any boy can learn to swim; providing he is in the water often enough and has the right type of instruction. The swimming instructor should have patience, understand the boy thoroughly, and give encouragement at all times.

4. The data reveal that the beginning boy swimmer can be prepared
in many ways for his lessons which are to follow. Friendliness, courtesy, common sense, and having the boy ready mentally and socially are real assets for the instructor of beginning swimming.

5. The data reveal that all beginning swim methods tried have merit. Every boy in the "Learn to Swim Campaign" learned to swim. Perseverance and patience were needed. It would seem evident that the biggest virtue needed would be kindness.
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