

# A study of the difficulties involved in introducing young children to judo techniques: A proposed teaching programme

## Authors' Contribution:

- A** Study Design
- B** Data Collection
- C** Statistical Analysis
- D** Manuscript Preparation
- E** Funds Collection

José Manuel García García<sup>1A, B, C, D, E</sup>, Vicente Carratalá Deval<sup>2A, B, C</sup>, Stanislaw Sterkowicz<sup>3B, C</sup>, Raquel Escobar Molina<sup>4D, E</sup>

<sup>1</sup> Faculty of Sports Science, University of Castilla La Mancha, La Mancha, Spain

<sup>2</sup> Faculty of Physical Activity and Sports Science, University of Valencia, Valencia, Spain

<sup>3</sup> Cracow Academy of Physical Education, University of Cracow, Cracow, Poland

<sup>4</sup> Faculty of Physical Activity and Sports Science, University of Granada, Granada, Spain

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## Abstract

### Background:

The study seeks to analyze the difficulty of implementing the fifteen techniques that make up the program of 1<sup>st</sup> Dan Black Belt in the Spanish context. The objective is to establish a sequential order, depending on the level of difficulty, allowing us to draw up a teaching program more consistent with the initiation process at early ages.

### Material/Methods:

The sample consisted of 911 teachers whose level of experience was at least 1st Dan black belt. The instrument consists of six items and was developed to facilitate the implementation of the basic actions of pulling and pushing in terms of the direction of the technique and control of the fall, the level of difficulty in its application, the facility to adjust the technical action in relation to space and time, and level of intersegmental coordination in the implementation of each of the techniques. The study used factor analysis, descriptive and inferential variables with SPSS software. 12.0.

### Results:

The results show that the level of difficulty in the implementation and adaptation of technology to space-time parameters are more difficult at these ages. De Ashi Harai or Okuri Ashi Harai pose an additional difficulty by introducing the element of precision.

### Conclusions:

We suggest making a new proposal for a methodology of teaching with the aim of encouraging learning and bringing the environment closer to the sport of judo. Progress should be based on actions and techniques that facilitate the throwing of the companion, based on safety in the performance and the balance of the judoists.

### Key words:

judo • go-kyo • teaching-learning programme • novice

### Author's address:

José Manuel García García, Facultad de Ciencias de la Actividad Física y del Deporte, Universidad de Castilla La Mancha, Avda Carlos III s/n. Campus Tecnológico, Edificio Sabatini, Despacho 1.64; e-mail: JoseManuel.Garcia@uclm.es

**Novice:** inexperienced person that starts in the practice of judo.

**Teaching-learning programme:** new education judo system for early ages based on Go-Kyo.

## BACKGROUND

The age at which people take up judo and the level of participation are important variables that need to be considered when adapting teaching content. This study focuses on the six to twelve-year-olds, a stage at which nearly 80% of participants take up the sport. According

to Carratalá [1], Spanish children start learning judo between the ages of four and eight, accounting for 73% of the total number of people beginning judo lessons. With 22.9% and 17.7% respectively, six and five-year-olds account for the highest numbers of children taking up judo, followed by four-year-olds with 16% and eight-year-olds with 11.3%. Within the age ranges re-

ferred to, seven-year-olds provided the lowest proportion of beginners at 8.7%. As Table 1 shows, from the age of nine onwards there is a drop in the number of people who begin judo lessons, with figures gradually descending from the age of ten through to fourteen-year-olds, only 0.9% of whom start lessons in the sport.

**Table 1.** Judo beginners – age groups.

Age	Actual %	Accumulated %
4	16.0	16.0
5	17.7	33.8
6	22.9	56.7
7	8.7	65.4
8	11.3	76.6
9	6.1	82.7
10	7.8	90.5
11	4.3	94.8
12	1.7	96.5
13	2.6	99.1
14	0.9	100.0

Authors such as Geesink [2], Gleeson [3], Sacripanti [4], Kolychkyne [5] and Dopico and Iglesias [6] have suggested criteria for categorising judo techniques. However, the best known principles, which we shall refer to here, were published by the founder of judo, Jigoro Kano (1860–1938), in 1889. These writings have been updated by the Kodokan in Tokyo and are used as a guide by the various national federations [7]. The *Go-Kyo* “is a theoretical reflection on how techniques should be organised so that they may be learnt according to a rational process” [8]. Many contributions have emerged since publication of the very first *Go-Kyo*, written in 1895, and the one put forward by the Kodokan in 1920, which is applied in most countries today, including Spain. These contributions set out to adapt the difficulties involved in teaching judo to social change and the gradual rise in the number of young participants. The most notable of these from a historical perspective was written by the judo master Miconosuke Kawaishi (1899–1969) [9], who based his work on the proposals made by Gunji Koizumi (1865–1965) in order to westernise the teaching of judo by proposing several levels of difficulty corresponding with the colour of belt worn by the participant.

In Spain, authors such as Cecchini [10], González [11], García [12], Gaspar [13], Amador [14], Carratalá [15], Dopico, Iglesias and Romay [16], various authors [17] and Castarlenas et al. [18] have proposed interesting ideas based on the general perspective of learning judo.

Others, such as Carratalá [19–22], Muzas et al. [23], García [24] and Sterkowicz and García [25], have made specific proposals on the contents of judo programmes for children of young ages. These are just some of the authors who have made contributions designed to improve the process of teaching judo.

This particular work focuses on the experiences of judo teachers who work with children in clubs and schools on an everyday basis and its aim is to provide an accurate snapshot of the point at which these youngsters encounter significant difficulties in learning techniques as well as an assessment of the timing and sequencing of content.

### Objectives

This study aims to analyse the difficulty in performing the 15 techniques that make up the black belt (1<sup>st</sup> Dan) programme in Spain, the purpose being to establish a sequential order determined by the level of difficulty, thus enabling us to create a teaching programme more suited to the abilities of the participants.

## MATERIAL AND METHODS

### Sampling

The study was carried out in 19 countries with a total of 911 teachers, all of whom continue to give lessons and possess at least a 1<sup>st</sup> Dan black belt.

### Instrument

The criteria used as a reference in the evaluation of each of the techniques analysed in the study were created in accordance with the general principles of these techniques and the level of difficulty in applying them. The criteria are as follows: the degree of difficulty with which *tori* may achieve posture control; maintaining and applying balance (*tori*) and imbalance (*uke*); ease in adjusting technical actions in relation to space and time; the level of difficulty involved in achieving intersegmentary coordination in the execution of each of the techniques. Two other parameters that were considered were the degree of difficulty involved in applying basic pulling and pushing actions in accordance with the direction of the technique and their subsequent control following the throw; and increased safety and preparation for taking a fall by *uke*.

Following creation of the instrument the questionnaire was applied. This involved use of a Likert scale to generate responses to six aspects of each of the aforementioned techniques. Respondents in complete agreement with the statement describing each aspect gave it

a maximum value of five, while those in complete disagreement gave it a minimum value of one. The aspects were as follows:

1. *Ease with which tori may achieve balance and uke imbalance*
2. *Ease with which tori may achieve posture control*
3. *Ease in adjusting to space-time (precision)*
4. *Ease in achieving intersegmentary coordination*
5. *Ease in achieving correct direction in pushing and pulling actions*
6. *Ease with which uke achieves ukemi (falling without the risk of an injury)*

### Procedure

The instrument was applied in two different ways. Firstly, head researchers in each country coordinated interviews with teachers attending courses, conferences and training events held in Spain, Portugal, Brazil and Poland. At the same time the questionnaire was posted, along with the relevant instructions, on the website *www.egroups.judoeuropa-nano.yahoo.com* (now inactive). The response was most impressive and though participants had the option of responding anonymously, over 80% put their names to their answers.

The SPSS 12.0 statistics program was used to carry out factor, descriptive and inferential analysis of the study variables.

## RESULTS

There is no reason why the results obtained with regard to the difficulty of learning and teaching the techniques should correspond with the order in which they are taught. Other factors such as the type of *ukemi* that *uke* has to perform also come into play in determining this order. They can, however, provide important data in terms of listing the level and ease with which young children learn these techniques.

Table 2 details the order in which respondents categorised the techniques in terms of difficulty by rating the six aspects. The highest possible score was 30 points (five points for each of the six aspects). As can be seen, the most highly valued were the *Koshi-waza* techniques: *O-goshi* and *Koshi-guruma*, both of which require the support of both feet and offer an easily controllable *ukemi*. *Okuri-ashi-barai* and *Tomoe nage* were regarded as the most difficult to perform, as both are difficult for *uke* to control when executing *kake* and also present problems for *tori* in terms of posture control. The table is provided below along with the average score in addition to the standard margin of error.

As regards the level of difficulty in terms of execution, teachers identified the techniques detailed in Table 3

**Table 2.** Mean results for each technique.

Technique	Score $\pm$ SD	Ranking
O GOSHI	23.21 $\pm$ 2.72	1
KOSHI GURUMA	19.54 $\pm$ 2.69	2
O SOTO GARI	19.34 $\pm$ 2.12	3
TAI OTOSHI	18.99 $\pm$ 3.07	4
O UCHI GARI	18.31 $\pm$ 3.24	5
KO UCHI GARI	17.55 $\pm$ 3.99	6
KO SOTO GAKE	17.45 $\pm$ 3.17	7
HARAI GOSHI	17.13 $\pm$ 1.15	8
IPPON SEOI NAGE	16.09 $\pm$ 1.98	9
UKI GOSHI	16.02 $\pm$ 3.01	10
SASAE TSURI KOMI ASHI	14.96 $\pm$ 2.87	11
TSURI KOMI GOSHI	13.92 $\pm$ 2.86	12
DE ASHI BARAI	13.23 $\pm$ 3.11	13
KATA GURUMA	12.23 $\pm$ 3.07	14
HIZA GURUMA	11.93 $\pm$ 1.46	15
OKURI ASHI BARAI	10.74 $\pm$ 2.11	16
TOMOE NAGE	8.15 $\pm$ 3.38	17

as the ones that corresponded most closely to the criteria set out in each aspect.

The section that posed the most problems for teachers was “Ease in achieving correct direction in pushing and pulling actions”, while the aspect that proved least problematic in terms of execution was “Intersegmentary coordination”.

In order to draw up a judo programme for children we needed to find out the importance that teachers gave to each of the aspects. This is detailed in Table 4 below.

As Table 4 shows, with regard to the creation of a teaching programme, the teachers surveyed take into consideration the possible risk of the *judoka* suffering injury when they are thrown, in other words, the level of difficulty in executing and receiving *ukemi*, with priority being given to safety during the course of the fall. They also consider development of intersegmentary coordination to be important.

## DISCUSSION

In the view of teachers, the aspect that poses the greatest difficulty to children of these ages is the adjustment to space and time. The *De ashi harai* and *Okuri ashi harai* throws present an added difficulty as they introduce the concept of precision. However, this is not a reason in itself for young children not to be taught these techniques

**Table 3.** Breakdown of techniques according to ease with which they are performed.

Aspect	Techniques that are easiest to perform	Techniques that are hardest to perform
Ease with which <i>tori</i> may achieve balance and <i>uke</i> imbalance:	O GOSHI KOSHI GURUMA TAI OTOSHI	TOMOE NAGE HIZA GURUMA
Ease with which <i>tori</i> may achieve posture control:	O GOSHI O SOTO GARI KO SOTO GAKE	HIZA GURUMA KATA GURUMA
Ease in adjusting to space-time (precision):	O GOSHI O SOTO GARI KOSHI GURUMA	DE ASHI BARAI OKURI ASHI BARAI.
Ease in achieving intersegmentary coordination:	KO SOTO GAKE O GOSHI KOSHI GURUMA	TSURI KOMI GOSHI TOMOE NAGE
Ease in achieving correct direction in pushing and pulling actions:	O GOSHI TAI OTOSHI KOSHI GURUMA	KATA GURUMA O UCHI GARI
Ease with which <i>uke</i> achieves <i>ukemi</i> (falling without the risk of an injury):	O SOTO GARI DE ASHI BARAI O UCHI GARI	TOMOE NAGE KATA GURUMA

**Table 4.** Ease in achieving correct direction in pushing and pulling actions.

Rating given to each aspect	6	5	4	3	2	1
Difficulty of <i>uke</i> achieving <i>ukemi</i>	65.97	32.38	1.64	–	–	–
Intersegmentary coordination	21.40	53.45	20.41	4.72	–	–
<i>Tori</i> posture control	10.55	9.11	59.60	17.56	3.18	–
<i>Tori</i> balance-imbalance	2.08	3.95	16.79	44.02	32.82	0.33
Space-time adjustment (precision)	–	0.87	1.56	27.45	50.83	18.22
Problems in achieving pushing and pulling direction	–	0.24	–	6.25	13.17	81.45
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

as learning them also helps them to learn *Yoko ukemi*. These actions should be taught by modifying part of their structure (*uke* with one knee on the ground) in order to make it easier for *tori* to achieve stability and execute the throw. The same is true with *Sasae tsuri komi ashi* and *Hiza guruma*, both of which are difficult techniques even for an experienced *judoka*, but which should be taught to young children as they can help them learn *Zempo kaiten ukemi*.

In assessing the six aspects teachers based their contributions on two considerations that are fundamental to how teaching of the techniques should be structured, namely the level of difficulty in their execution, and the most important aspects to be taken into consideration in the creation of a programme for young children. These findings have some similarities with the premises of the methodological programme of the French Judo Federation, the proposal made by Carratalá and Carratalá [26] and the one recently put together by the Galician Judo Federation [27]. In perhaps taking a more traditional outlook, Nayima [28] states that judo has survived to this day without any problem due to its fun-

damental concepts and to the fact that it is understood as a system of learning and training, a system that, as the results of this study reveal, must evolve and adapt to modern society's expectations by searching for alternatives in the way the sport is taught.

In this sense we propose the application of two criteria in organising teaching techniques. The first places an emphasis on the safety of *uke* and the second takes into consideration the ease of executing the actions. The aim here is that *tori* should always have two points of support in executing the technique and that the thrower should be able to control the fall of their opponent with ease. A second skills level would complement the skills acquired beforehand and would include a progression from techniques that have already been learnt to the acquisition of new ones. These aspects mirror those put forward by the FFJDA (1989) [29], which stated that content should be structured in line with the ease with which it can be executed by students engaged in the learning process and the safety of the fall resulting from the application of the technique.

**Table 5.** Proposed programme, taking difficulty of execution and age of learners into consideration.

Age	Belt colour	Programme
6	WHITE-YELLOW	MOBILITY/JUDO + UKEMI
7	YELLOW	O SOTO GARI (OTOSHI) O-GOSHI DE ASHI BARA* KO SOTO GARI (GAKE)
8	YELLOW-ORANGE	O UCHI GARI KOSHI GURUMA SASAE TSURI K. ASHI OKURI A. BAR (LINEAR)
9	ORANGE	KO UCHI GARI SEOI NAGE HIZA GURUMA OKURI A.B. (ROTATION)*
10	ORANGE-GREEN	HARAI GOSHI TSURI GOSHI KATA GURUMA UKI WAZA
11	GREEN	LEVEL II GROUP A**
12	GREEN-BLUE	UCHI MATA TSURI KOMI GOSHI TOMOE NAGE URA NAGE
13	BLUE	LEVEL II GROUP B**
14	BLUE-BROWN	HANE GOSHI USHIRO GOSHI UTSURI GOSHI YOKO GAKE (GURUMA)
15	BROWN	LEVEL II GROUP C**

\* De Ashi Harai and Okuri Ashi Harai entail an additional difficulty introducing an element of precision. However this is not a reason not to teach those techniques to the youngest judoist (these techniques promote learning of Yoko Ukemi). However it has to be done by modifying part of its structure, uke with one knee on the floor making it simpler by stabilizing the tori and the possibility of the throw.

\*\* Development of techniques in relation to age and the motor capabilities of the *judoka*, opportunities, combinations, counterattacks, etc.

It is very important that the teaching environment offers young learners complete physical safety and emotional security. The emotional security generated by the

relationship built up within a group of learners is also a factor in learning. This particular concept should be borne in mind in teaching falls, as security helps build confidence in the execution of *ukemi* and thus helps the defender overcome their fear of being thrown, which is a key element to future progress. The thrower must ensure that conditions are right for a safe fall as the role of the thrower and the thrown are one and the same [30].

Table 5 details the proposed programme for teaching young children judo foot techniques, broken down according to ages and belt colours.

This proposal is adapted to the content and structure of judo in Spain. We should point out that the minimum age for holding a black belt in Spain is 16, whereas in other countries it is 18. We have not set objectives for learners below the age of six even though there are many centres where children as young as four are taking up the sport. Along with the age at which learners can be awarded a black belt in other countries, this is an aspect that should be taken into account when making suitable adjustments in each area of application.

## CONCLUSIONS

Based on the results, we can conclude that a new methodological proposal for teaching children of these ages should be put forward, the aim being to encourage them to learn the sport and to help build a stronger relationship between judo and schools, where it is little used by PE teachers and little known by most children. The inclusion of judo and combat sports in school PE syllabuses would provide a new focus in the acquiring of skills and capabilities, thereby contributing to motor development and helping children become independent and responsible and to master motor skills [31]. This development must be shaped by actions and techniques that enable the classmate to be thrown more easily and which are supported by teaching actions based on the concepts of safe execution and the stability (balance) of the thrower. The aim in doing so is to create a methodology setting out a learning process that follows a logical order in the application of content based on the level of difficulty.

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