# CHOICE REACTION IN RUGBY PASSING: THEORY, METHODOLOGY, AND PRACTICAL OUTCOMES

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**Annotatsiya:** Maqola regbi o‘yinida to‘pni uzatish jarayonida tanlov reaktsiyasining (choice reaction) o‘rni va uning texnik-taktik samaradorlikka ta’sirini ilmiy asosda yoritadi. Tadqiqotning maqsadi — tanlov reaktsiyasini rivojlantiruvchi o‘yin-reprezentativ va cheklovlarga tayangan mashg‘ulotlar metodikasini ishlab chiqish hamda uning amaliy samaradorligini aniqlashdir. Amaliy ahamiyat — trenerlar uchun oddiy jihozlarda joriy etiladigan, pozitsiyaga moslashtiriladigan dastur bo‘lib, yoshlar va professional bosqichlarda qo‘llashga yaroqli; futbol, qo‘l to‘pi, basketbol kabi tezkor qaror talab qiluvchi sportlarga ham transfer qilinadi.

**Kalit so‘zlar:** regbi, tanlov reaktsiyasi, qaror qabul qilish, uzatma aniqligi, periferik ko‘rish, anticipatsiya, representative learning, constraints-led approach, quiet eye.

**Аннотация:**Статья научно обосновывает роль реакции выбора (choice reaction) в процессе передачи мяча в регби и её влияние на технико-тактическую результативность. Цель исследования — разработать тренировочную методику, развивающую реакцию выбора, на основе репрезентативного дизайна обучения и подхода, основанного на ограничениях, а также определить её практическую эффективность. Практическая значимость — программа, внедряемая с использованием простого оборудования и адаптируемая под игровую позицию, пригодна для юношеского и профессионального уровней; может быть трансферирована в виды спорта, требующие быстрого принятия решений, такие как футбол, гандбол и баскетбол.

**Ключевые слова:** регби, реакция выбора, принятие решений, точность передачи, периферическое зрение, антиципация, репрезентативное обучение (репрезентативный дизайн обучения), подход, основанный на ограничениях, «quiet eye» (стабильная фиксация взора)

**Abstract:** The article scientifically substantiates the role of choice reaction in the rugby passing process and its impact on technical–tactical effectiveness. The aim is to develop a training methodology that enhances choice reaction using representative learning design and a constraints-led approach, and to determine its

practical effectiveness. Practical significance: a program implementable with simple equipment and adaptable to playing positions, suitable for both youth and professional levels; transferable to decision-dense sports such as football/soccer, handball, and basketball.

**Keywords**: |Rugby, choice reaction, decision-making, passing accuracy, peripheral vision, anticipation, representative learning, constraints-led approach, quiet eye

## 1. Introduction

Rugby is a modern sport characterized by high dynamics and complex tactical variability. Game episodes change within milliseconds, and the gap between decision-making and motor execution often determines the success of an entire attacking combination. Therefore, fast and accurate passing is not only a matter of technical skill but also depends on the efficiency of a complex psychophysiological process known as choice reaction.

Choice reaction involves the perception of multiple stimuli, rapid analysis of the game situation, selection of the optimal response, and its execution within minimal time. In contrast to simple reaction, where a single response corresponds to a single stimulus, choice reaction requires selecting one action among several possible alternatives. This ability directly influences game tempo, team coordination, and offensive effectiveness.

According to classical psychomotor principles, as the number of response alternatives increases, reaction time also increases (Hick–Hyman law). In sports practice, overcoming this limitation requires the development of perceptual–cognitive skills, anticipation, peripheral vision, and the automation of the decision–action coupling. As a result, athletes are able to “read” complex game situations more efficiently and execute timely and accurate passes.

The aim of this study was to examine the effectiveness of a targeted choice reaction training methodology in improving passing accuracy and reducing technical errors in rugby.

## 2. Methods

### 2.1. Experimental Design and Participants

An eight-week experimental program was conducted with rugby players aged 14–18 years. The participants were divided into two groups:

Experimental Group (EG): trained using game-representative exercises specifically designed to develop choice reaction.

Control Group (CG): followed a traditional training program without targeted cognitive–perceptual interventions.

Training sessions in the experimental group were conducted 3–4 times per week, lasting 45–70 minutes, with a gradual increase in task complexity.

**2.2.** Training Methodology

The training program was based on the principles of representative learning design and the constraints-led approach. It included:

signal-based passing drills (direction and target determined by color, light, or auditory cues);

multiple passing options with strict time constraints;

decision-making tasks performed while running and under defensive pressure;

small-sided games (SSG) with numerical imbalances and spatial–temporal constraints; dual-task exercises combining cognitive load (symbol or number processing) with technical execution;

visual–perceptual training aimed at improving peripheral vision, anticipation, and "quiet eye" control.

**2.3.** Assessment Tools

The diagnostic battery included:

visual choice reaction time;

decision-making time;

peripheral vision indicators;

color/number-based directional choice tasks;

passing accuracy during movement;

number of technical errors;

coordination performance;

game-simulated situational tests.

**2.4.** Data Analysis

Percentage changes were calculated for all key variables. Pearson's correlation coefficient was used to determine the relationship between choice reaction speed and passing accuracy.

**3.** Results

At the end of the eight-week intervention, the experimental group demonstrated significant improvements:

**Choice reaction speed: −22%**

**Decision-making time: −24%**

**Passing accuracy: +15%**

**Technical errors: −43%**

Correlation analysis revealed a strong positive relationship between choice reaction speed and passing accuracy ($r \approx 0.71$), indicating that improvements in decision-making efficiency were directly associated with enhanced technical performance.

In the control group, no meaningful changes were observed in the measured indicators.

## 4. Discussion

The results of the study confirm the effectiveness of targeted choice reaction training in rugby. The observed improvements can be explained by several interrelated mechanisms.

First, cognitive–motor integration was enhanced by training decision-making and technical execution within a single functional system, which accelerated the perception–decision–action chain. Second, variability and task constraints (manipulation of angles, distances, time pressure, and defensive presence) expanded players' adaptive motor repertoire, consistent with the constraints-led approach. Third, the development of perceptual skills, particularly peripheral vision and anticipation, reduced cognitive load during gameplay. Finally, movement automatization allowed cognitive resources to be redirected toward situational analysis rather than basic technical control.

These findings align with contemporary motor learning theories (Schmidt & Lee), ecological dynamics perspectives (Davids et al.), and perceptual–cognitive research emphasizing the role of the "quiet eye" in skilled performance (Vickers).

## 5. Conclusion

Passing effectiveness in rugby is directly related to the athlete's choice reaction ability. Sensorimotor integration, anticipation, peripheral vision, and decision stability under stress constitute the hidden foundation of technical execution.

The implementation of representative training tasks and constraint-based practice led to a 22% improvement in choice reaction speed, a 15% increase in passing accuracy, and a 43% reduction in technical errors. Therefore, targeted development of choice reaction represents a reliable and effective method for improving collective attacking continuity and performance in rugby.

The proposed methodology is not limited to rugby and may be successfully adapted to other fast-paced, decision-intensive team sports such as football (soccer), basketball, handball, and hockey.

## References

1. O‘zbekiston Regbi Federatsiyasi. Regbi o‘yin qoidalari. Toshkent, 2021.
2. O‘zbekiston Regbi Federatsiyasi. Regbi o‘yinchilari uchun o‘quv-uslubiy qo‘llanma. Toshkent, 2020.
3. Qodirov A. Regbi sportida texnik va taktik tayyorgarlik asoslari. Toshkent, 2019.

4. Nurmatov D. Regbida to‘pni uzatish texnikasini o‘rgatish. Toshkent, 2022.
5. Usmonov Sh. Regbi o‘yinida reaksiya tezligini oshirish metodikasi. Toshkent, 2018.
6. Schmidt R.A., Lee T.D. Motor Control and Learning. Human Kinetics, 2019.
7. Vickers J.N. Perception, Cognition, and Decision Training. Human Kinetics, 2007.
8. Davids K., Button C., Bennett S. Dynamics of Skill Acquisition: A Constraints-Led Approach. Human Kinetics, 2008.
9. Williams A.M., Ford P.R. Expertise and Expert Performance in Sport. Int. Rev. Sport Exerc. Psychol., 2008.
10. Hick W.E. On the rate of gain of information. Q. J. Exp. Psychol., 1952.