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Identifying Student Errors and Its Relationship to Content Knowledge

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Purpose

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Participants

23 university sport instructors

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Setting

- Standardized nationwide PETE curriculum
- Physical activity and sport courses represented 16.25% (39/240) of the curriculum.
- Recent update: SCK emphasis added

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Teaching Focus

In practice the primary focus of the courses was on helping pre-service teachers to improve their performance of the sports.

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Data Collection Instruments

- Knowledge of instructional task - **Content maps**
- CCK - **Knowledge tests**
- Knowledge of student errors - **Knowledge tests**

(only for instructors)

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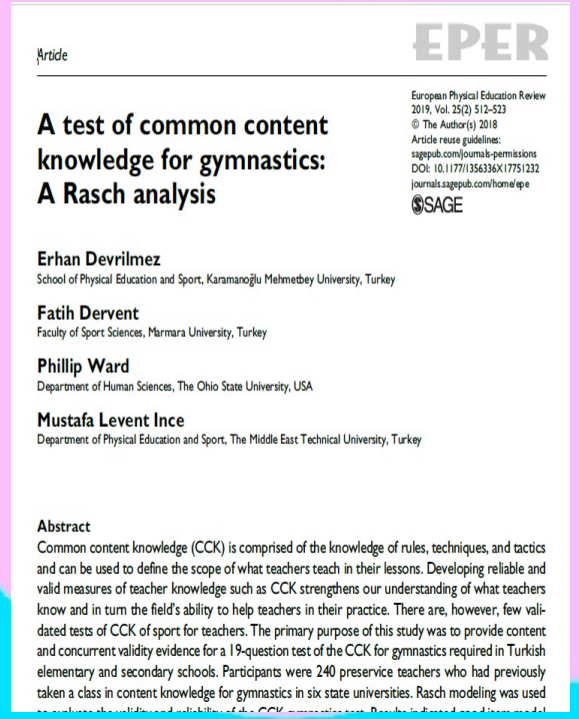
CCK Tests



Article

EPER

A test of common content knowledge for gymnastics: A Rasch analysis

European Physical Education Review
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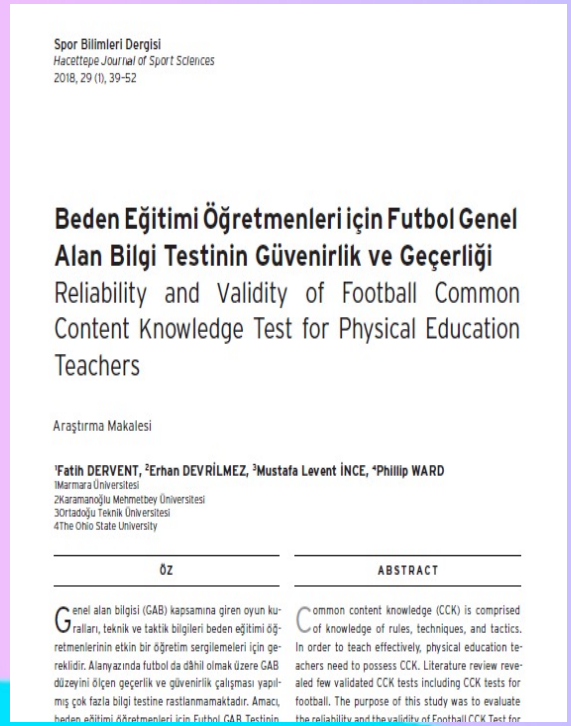
Abstract
Common content knowledge (CCK) is comprised of the knowledge of rules, techniques, and tactics and can be used to define the scope of what teachers teach in their lessons. Developing reliable and valid measures of teacher knowledge such as CCK strengthens our understanding of what teachers know and in turn the field's ability to help teachers in their practice. There are, however, few validated tests of CCK of sport for teachers. The primary purpose of this study was to provide content and concurrent validity evidence for a 19-question test of the CCK for gymnastics required in Turkish elementary and secondary schools. Participants were 240 preservice teachers who had previously taken a class in content knowledge for gymnastics in six state universities. Rasch modeling was used

Gymnastics



Spor Bilimleri Dergisi
Hacettepe Journal of Sport Sciences
2018, 29 (1), 39-52

Beden Eğitimi Öğretmenleri için Futbol Genel Alan Bilgi Testinin Güvenirlik ve Geçerliği
Reliability and Validity of Football Common Content Knowledge Test for Physical Education Teachers

Araştırma Makalesi

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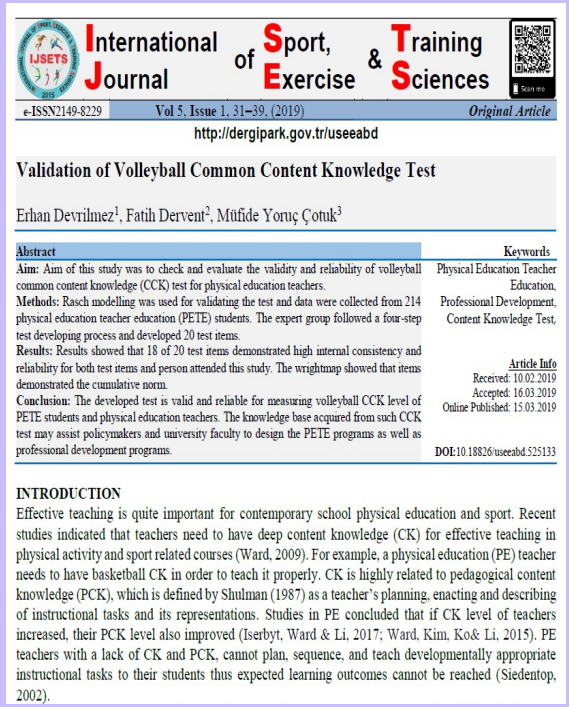
ÖZ

Genel alan bilgisi (GAB) kapsamına giren oyun kuralları, teknik ve taktik bilgileri beden eğitimi öğretmenlerinin etkin bir öğretim sergilemeleri için gereklidir. Alanyazında futbol da dâhil olmak üzere GAB düzeyini ölçen geçerlik ve güvenirlik çalışması yapılmış çok fazla bilgi testine rastlanmamaktadır. Amacı,

ABSTRACT

Common content knowledge (CCK) is comprised of knowledge of rules, techniques, and tactics. In order to teach effectively, physical education teachers need to possess CCK. Literature review revealed few validated CCK tests including CCK tests for football. The purpose of this study was to evaluate

Soccer



International Journal of Sport, Exercise & Training Sciences
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Validation of Volleyball Common Content Knowledge Test

Erhan Devrilmez[1], Fatih Dervent[2], Müfide Yoruç Çotuk[3]

Abstract
Aim: Aim of this study was to check and evaluate the validity and reliability of volleyball common content knowledge (CCK) test for physical education teachers.
Methods: Rasch modelling was used for validating the test and data were collected from 214 physical education teacher education (PETE) students. The expert group followed a four-step test developing process and developed 20 test items.
Results: Results showed that 18 of 20 test items demonstrated high internal consistency and reliability for both test items and person attended this study. The wrightmap showed that items demonstrated the cumulative norm.
Conclusion: The developed test is valid and reliable for measuring volleyball CCK level of PETE students and physical education teachers. The knowledge base acquired from such CCK test may assist policymakers and university faculty to design the PETE programs as well as professional development programs.

Keywords
Physical Education Teacher Education, Professional Development, Content Knowledge Test,

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INTRODUCTION
Effective teaching is quite important for contemporary school physical education and sport. Recent studies indicated that teachers need to have deep content knowledge (CK) for effective teaching in physical activity and sport related courses (Ward, 2009). For example, a physical education (PE) teacher needs to have basketball CK in order to teach it properly. CK is highly related to pedagogical content knowledge (PCK), which is defined by Shulman (1987) as a teacher's planning, enacting and describing of instructional tasks and its representations. Studies in PE concluded that if CK level of teachers increased, their PCK level also improved (Iserbyt, Ward & Li, 2017; Ward, Kim, Ko& Li, 2015). PE teachers with a lack of CK and PCK, cannot plan, sequence, and teach developmentally appropriate instructional tasks to their students thus expected learning outcomes cannot be reached (Siedentop, 2002).

Volleyball

60% Benchmark

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Knowledge of student errors

The very same gymnastics, soccer and volleyball CCK tests.

Instructors identify the incorrect choice (i.e., student error) that they believed their students would most likely select rather than the correct answer.

40% benchmark

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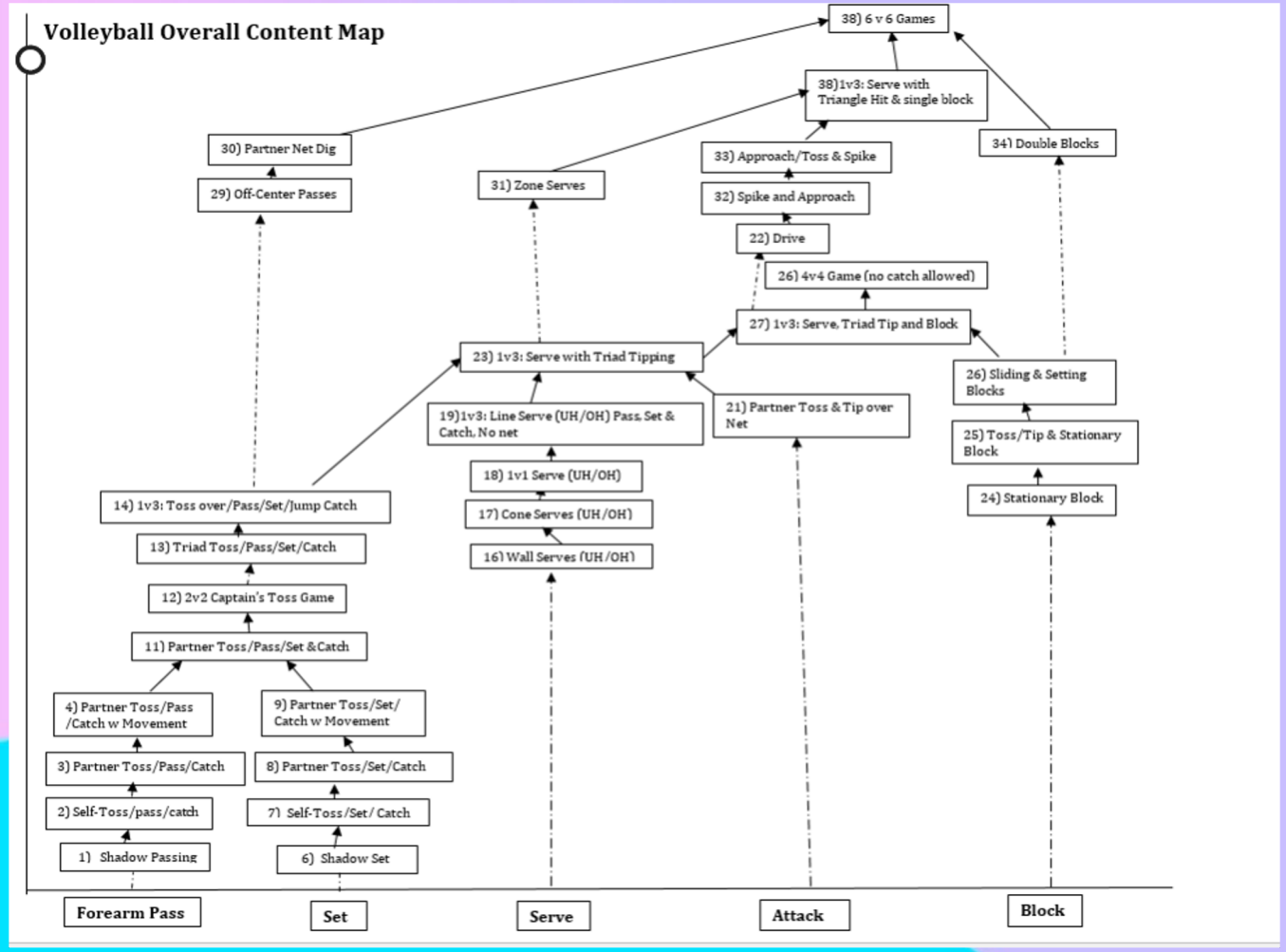
Knowledge of instructional task



(Ward et al., 2015)

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Content Development Categories

Extending-applying
EA

Refining-applying
RA

Applying game
AG

Refining
R

Informing
I

Extending
E

Applying non-game
AN

(Rink, 1994; Ward et al., 2017)

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Formula & Benchmark

$$\frac{E+EA+R+RA+AG+AN}{I}$$

3.0

Benchmark

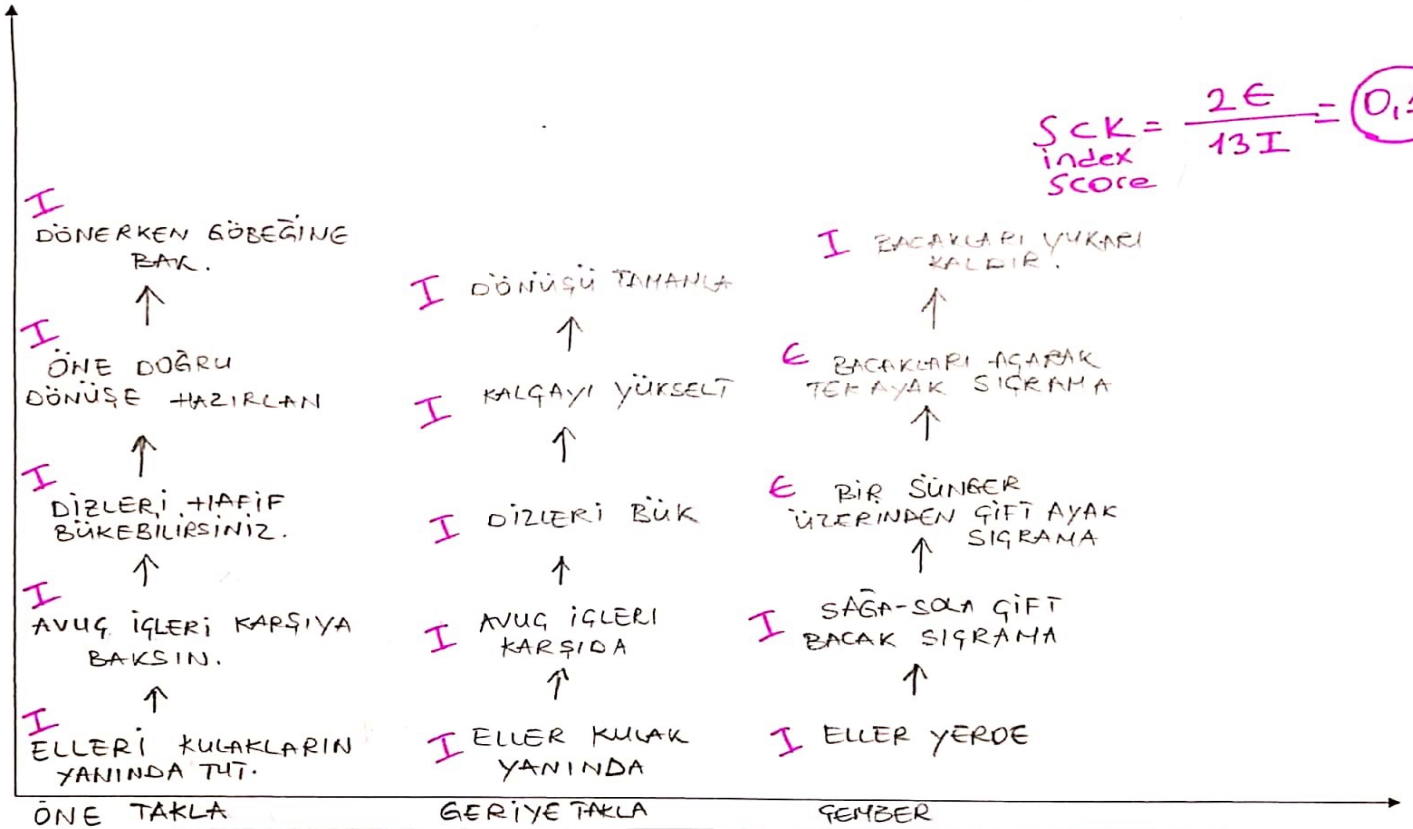
(Ward et al., 2017)

H-52

İÇERİK HARİTASI (CİMNASTİK)

SCK index score = 2E / 13I = 0,1

BECERİLERİN ÖĞRETİM BASAMAKLAMASINI AŞAĞIDAN YUKARI YAZINIZ.



ÖĞRETİLECEK SPOR BRANŞINA AİT TEMEL BECERİLERİ SOLDAN SAĞA YAZINIZ.

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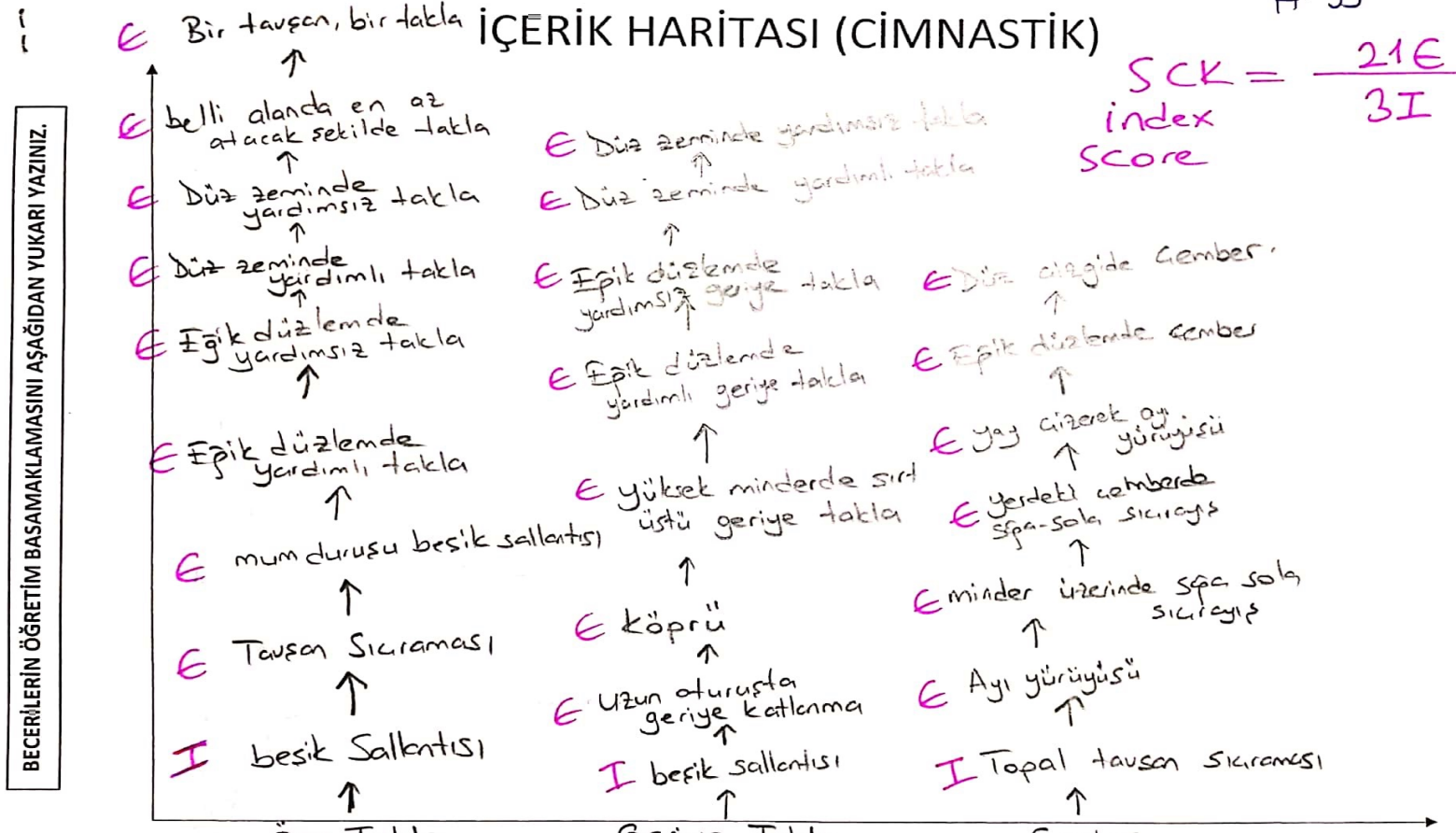
H-33

İÇERİK HARİTASI (CİMNASTİK)

SCK index score = 21E / 3I = 7



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Data Analysis

A Spearman's rank correlation coefficient was used to measure the degree of the relationships.

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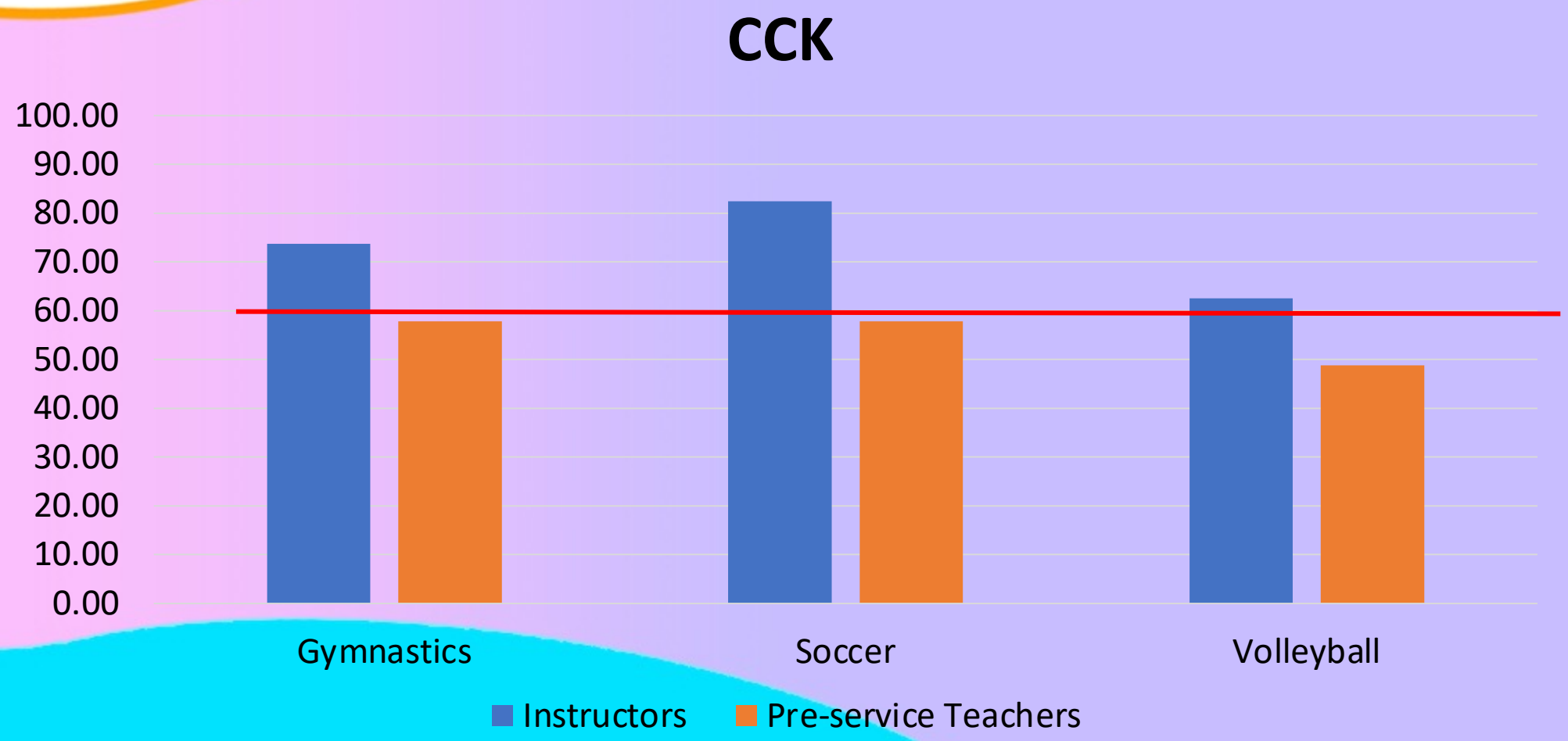
Results



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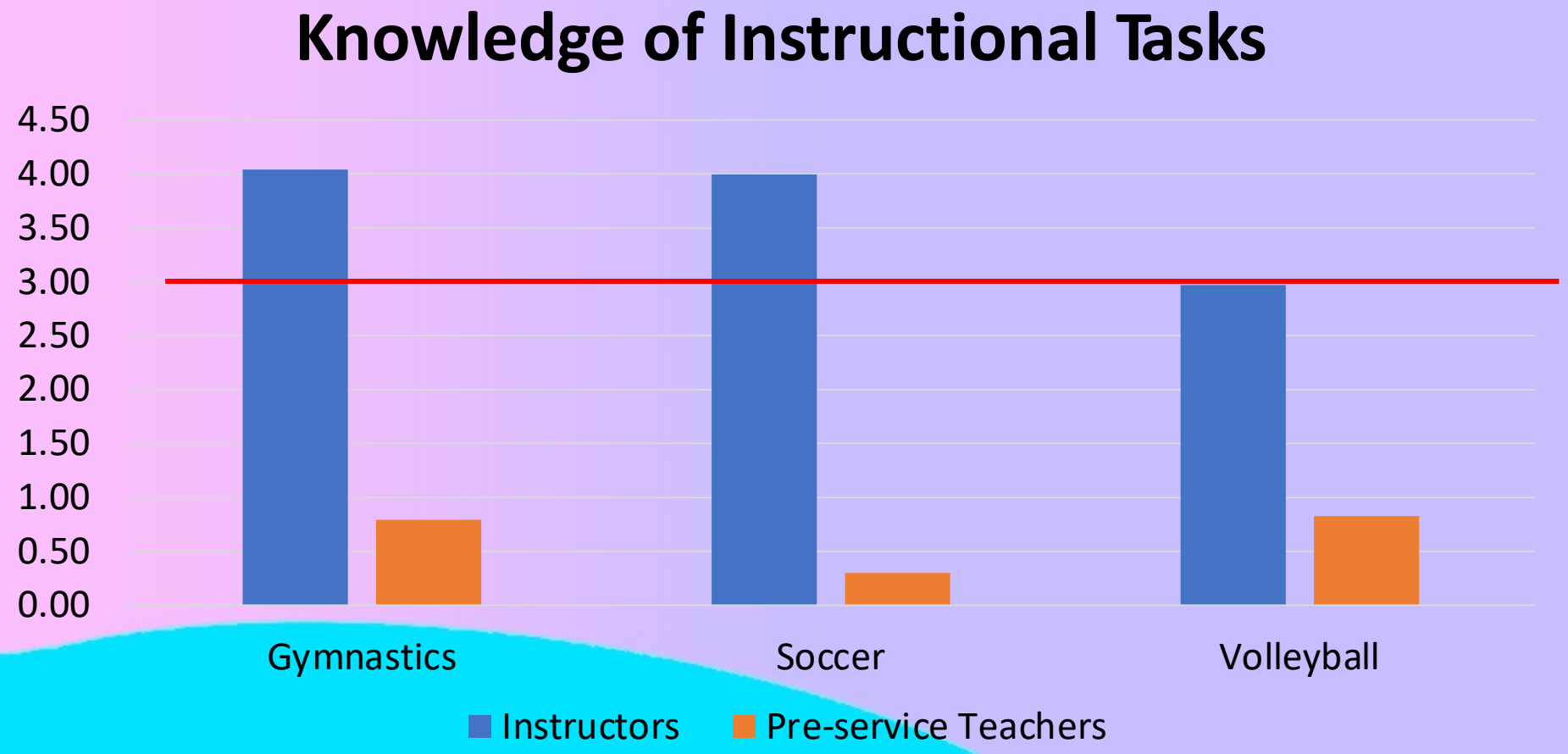
Results



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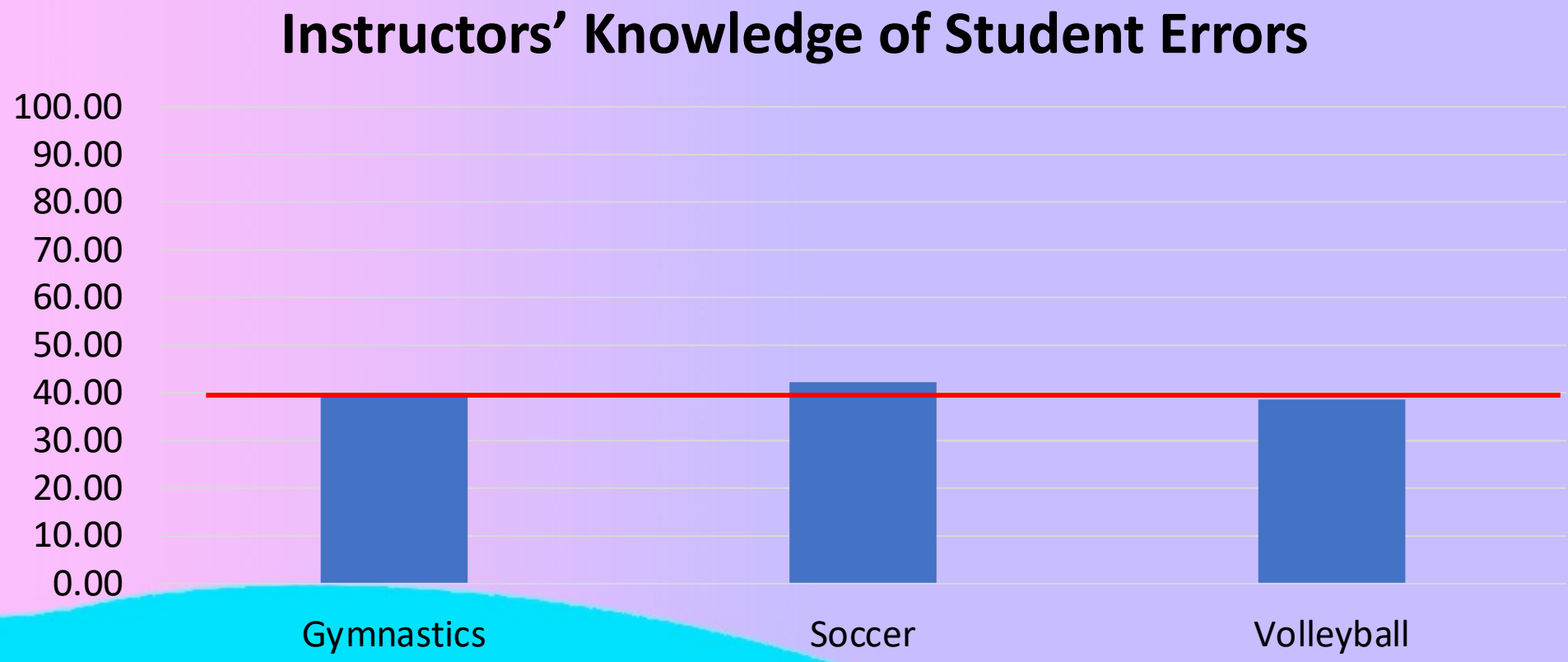
Results



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Relationship between instructors' and PSTs' CCK

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Relationship between instructors' knowledge of student errors and PSTs' CCK

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Relationship between instructors' and PSTs' knowledge of instructional tasks

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Relationship between instructors' knowledge of student errors and PSTs' knowledge of instructional tasks

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Discussion

- The higher the instructors scored in the CCK tests, the better PSTs scored.

- PSTs whose instructors could better identify the possible student errors in CCK tests had more correct answers.

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Implications

- This is the first study that contributes to the content knowledge literature by examining the SCK subdomains knowledge of instructional tasks and knowledge of student errors separately.

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Implications

- A strong need of professional development for instructors.

- Physical activity and sport courses need redesigning by explicitly teaching CCK, knowledge of instructional tasks, and knowledge of student errors.

(Dervent et al., 2020; Devrilmez, 2019; Ince et al., 2012)

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Limitations & Recommendations

- Future studies should include different sports, dances, and physical activities.
- Future studies should consider using different methods to measure knowledge of student errors such as skill analysis of actual performance.
- We need more studies to determine a student error benchmark

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