

Content Knowledge Derived from PETE programs

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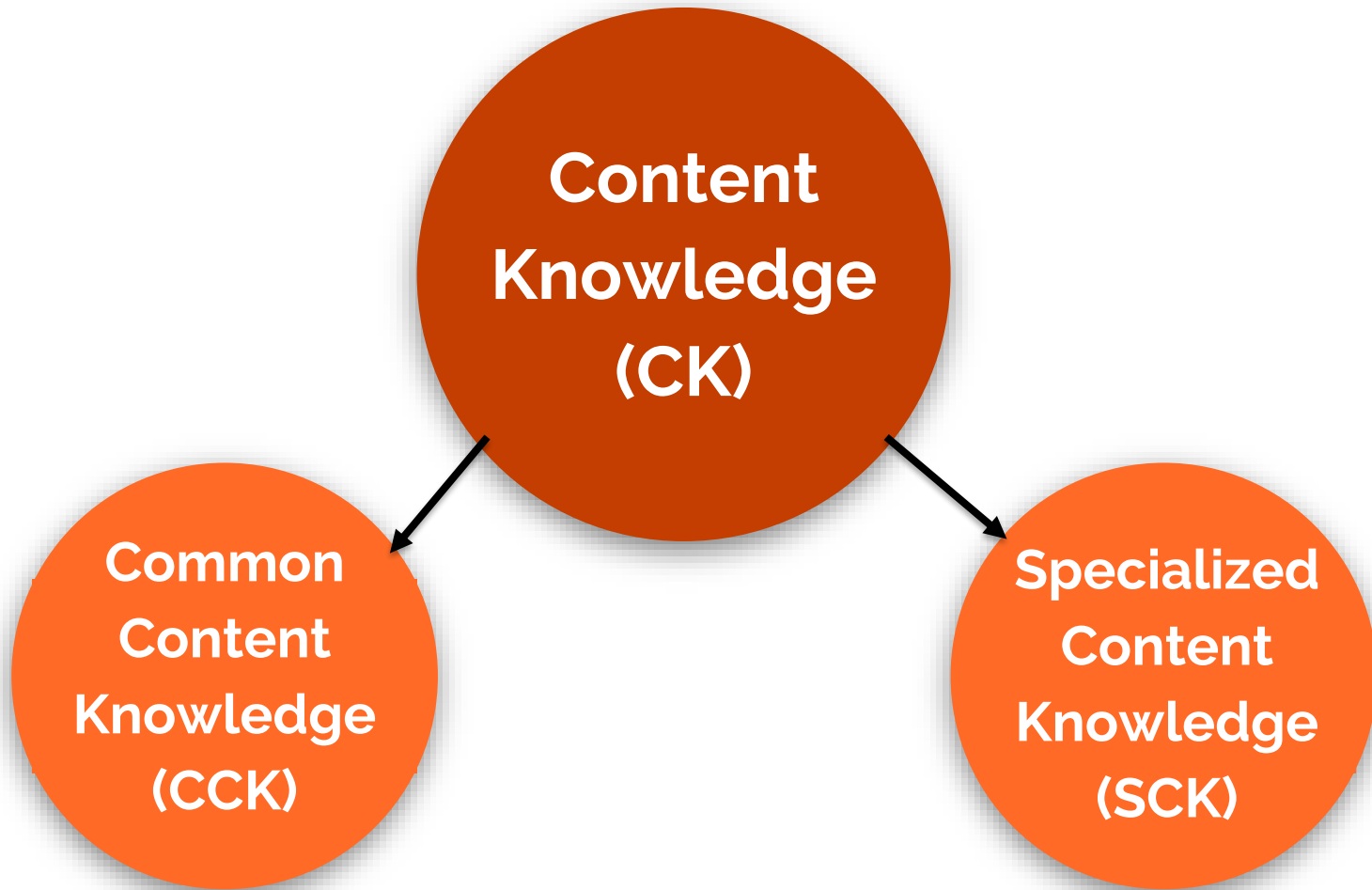
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Topics

- Common Content Knowledge (CCK)
- Specialized Content Knowledge (SCK)
- Context
- Participants
- Measuring CCK & SCK
- Findings
- Conclusions

—

Content knowledge is one of several types of knowledge teachers need to be able to teach



CCK

- Face target
- Place non-dominant foot slightly in front.
- Hold the ball with non-dominant hand, palm-up at shoulder level
- Contact with stiff open palm
- Follow through the midline of the ball

SCK



Purpose


To measure common content knowledge and specialized content knowledge of students enrolled in PETE programs in Turkey

Context

- 71 PETE programs
- Standardized curriculum
- Compulsory sport courses
- Performance focus
- Nationwide PE curriculum

Participants

- Stratified sampling
- 16 PETE programs
- 1514 PETE students
- 435 freshmen; 397 sophomores; 383 juniors
299 seniors
- Data collected during 2016-2017 year



How did we measure
the depth of CCK?

CCK Tests

Soccer

30 questions

- Multiple choice
- Only one correct answer
- Rules, techniques and tactics
- Rasch Analysis (Rasch, 1980)

Gymnastics

19 questions



Gymnastics CCK Test

What is the main purpose of spotting?

- A. To enable the performer to do moves that would otherwise be beyond his or her ability
- B. To give confidence to a beginner
- C. To prevent injury when the student is tired
- D. To provide for student safety

Where should the hands be placed in a backward roll?

- A. Near the ears
- B. In front of the feet
- C. Beside the hips
- D. In front of the chest

Soccer CCK Test

What is the name of the kick awarded in the event of a player tripping an opposing player?

- A. Goal kick
- B. Indirect free kick
- C. Corner kick
- D. Direct free kick

Which of the following is not an attacking principle?

- A. Width
- B. Penetration
- C. Depth and Support
- D. Follow through

CCK Tests

Soccer

Gymnastics

Item reliability

.98

.94

Person reliability

.91

.91

Beden Eđitimi Öğretmenleri için Futbol Genel Alan Bilgi Testinin Güvenirlik ve Geçerliđi

Reliability and Validity of Football Common Content Knowledge Test for Physical Education Teachers

Arařtırma Makalesi

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Article

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

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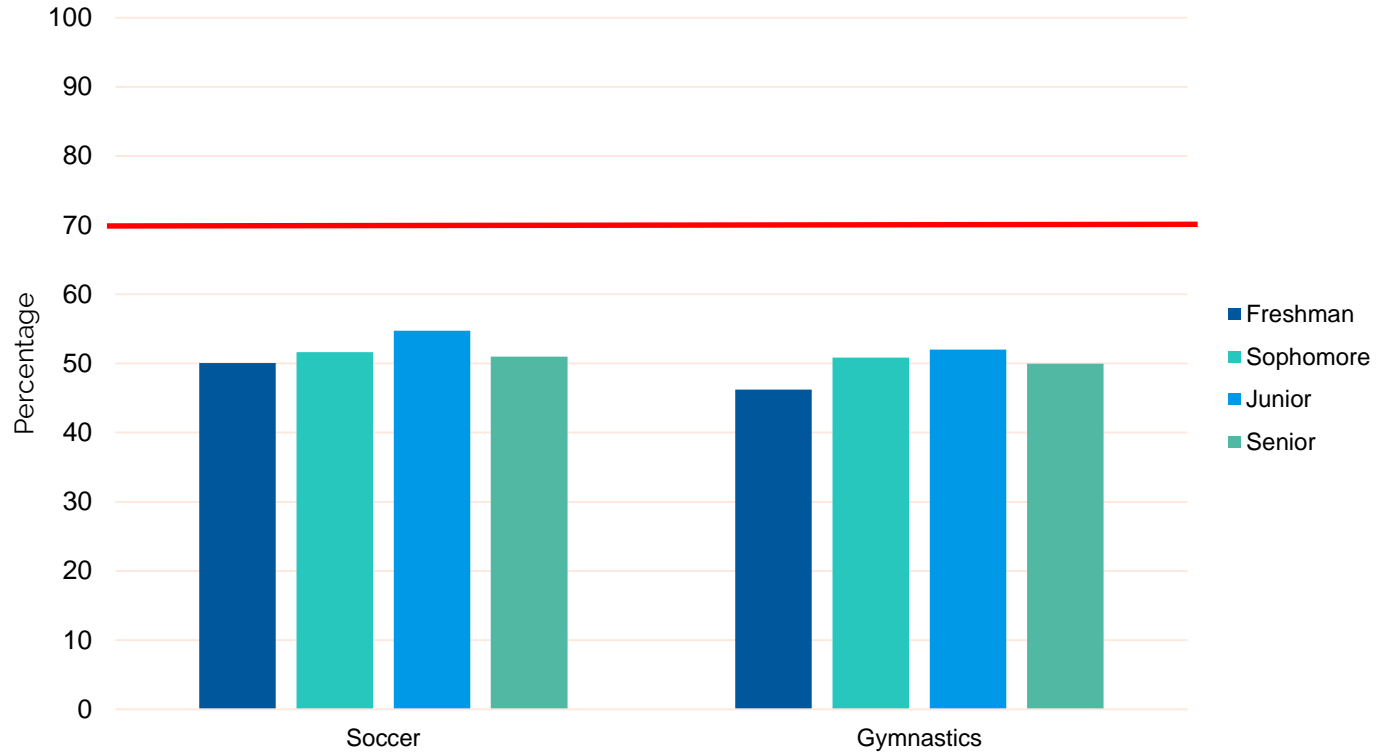
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EPER

European Physical Education Review
2019, Vol. 25(2) 512-523
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sagepub.com/journals-permissions
DOI: 10.1177/11356336X17751232
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CCK Tests Correct Answers



A night-time photograph of a soccer game on a grass field. The scene is illuminated by stadium lights, with a prominent bright light source at the top center creating a lens flare effect. The players are in motion, and the background is dark with some distant lights.

How did we measure
the depth of **SCK**?

Content development

can be used as a measurement of
depth of SCK

Content development categories

(Rink, 1979; Ward et al., 2017)



Informing (I)



Extending (E)



Refining (R)



Extending applying (EA)

Refining applying (RA)



Applying nongame (AN)

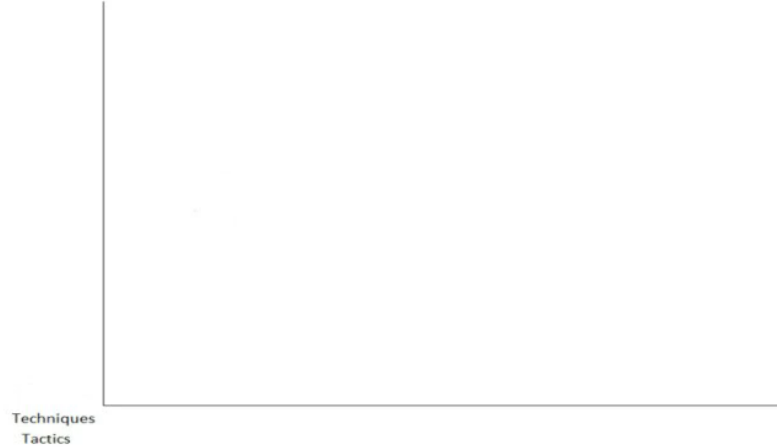


Applying Game (AG)

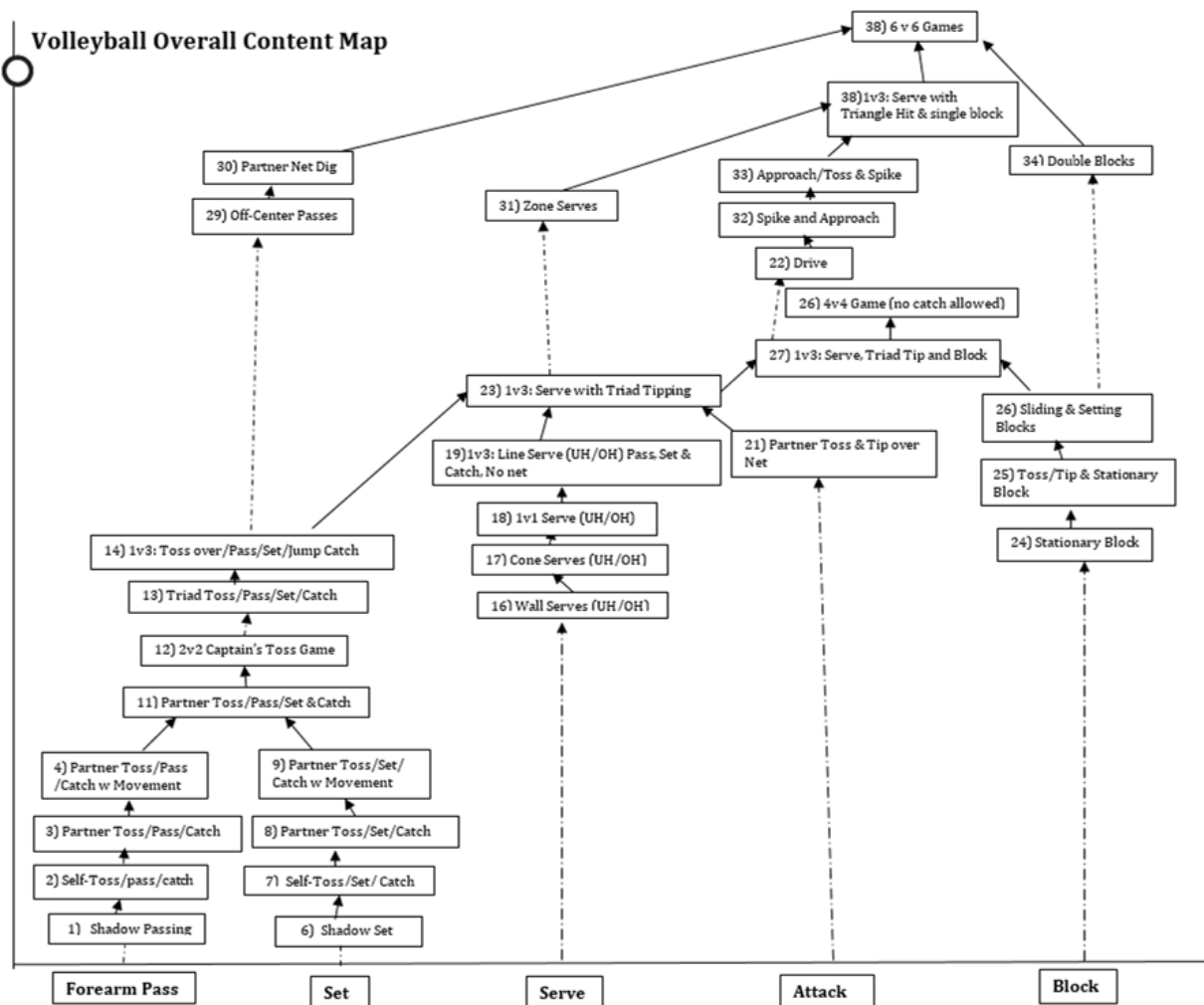
Content map

is a diagram that describes the SCK to be taught

How to complete a **content map**?



Volleyball Overall Content Map



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Formula to assess the depth of
SCK

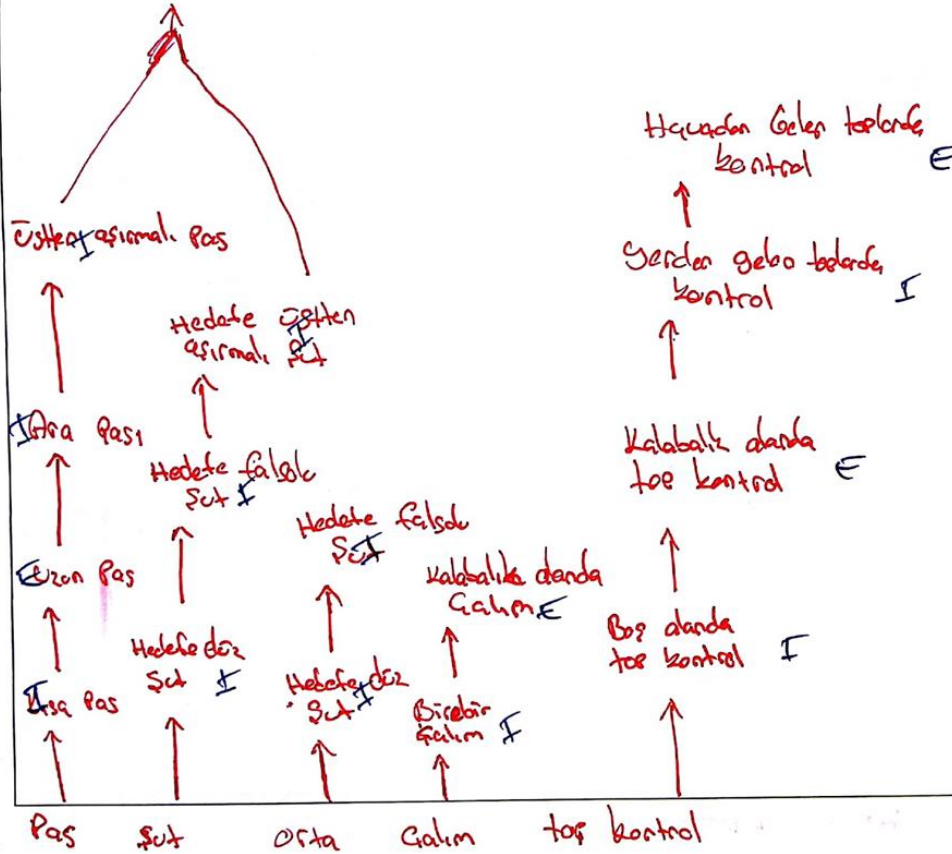
E+EA+R+RA+AG+AN

|

3.0

BENCHMARK

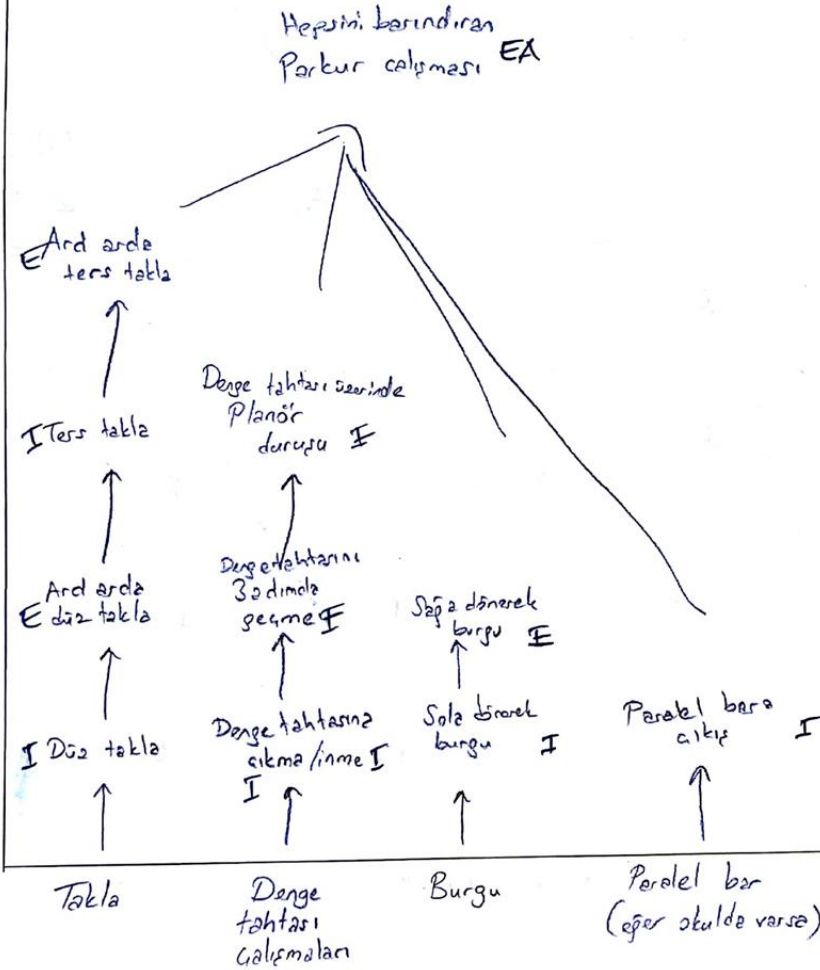
Üstten aşırı hızlı pas ile
hedefe felsele şut
EA



12 I
4 E
1 EA

$$\text{SCK Index} = \frac{4+1}{12} =$$

0.41

Beceriler
(teknik/taktik) >

6 I
5 E
1 EA

$$\text{SKK index score} = \frac{5 + 1}{6} = \textcircled{1}$$

Using Content Maps to Measure Content Development in Physical Education: Validation and Application

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Purpose: This study reports on our efforts toward extending the conceptual understanding of content development in physical education by validating content maps as a measurement tool, examining new categories of instructional tasks to describe content development and validating formulae that can be used to evaluate depth of content development. **Method:** The reliability, content, and concurrent validity of content maps and formulae were evaluated together with an application of the content maps and formulae. Descriptive statistics were used to report the data. **Results:** The reliability and validity of content maps was established. The new categories allowed for a finer analysis of content development. All formulae differentiated among different content expertise. **Discussion/Conclusion:** If depth of content knowledge is evidenced by tasks designed to refine, extend and apply student performance, then the content map, categories and formulae reported in this study provide tools that have utility for teachers, teacher educators and researchers.

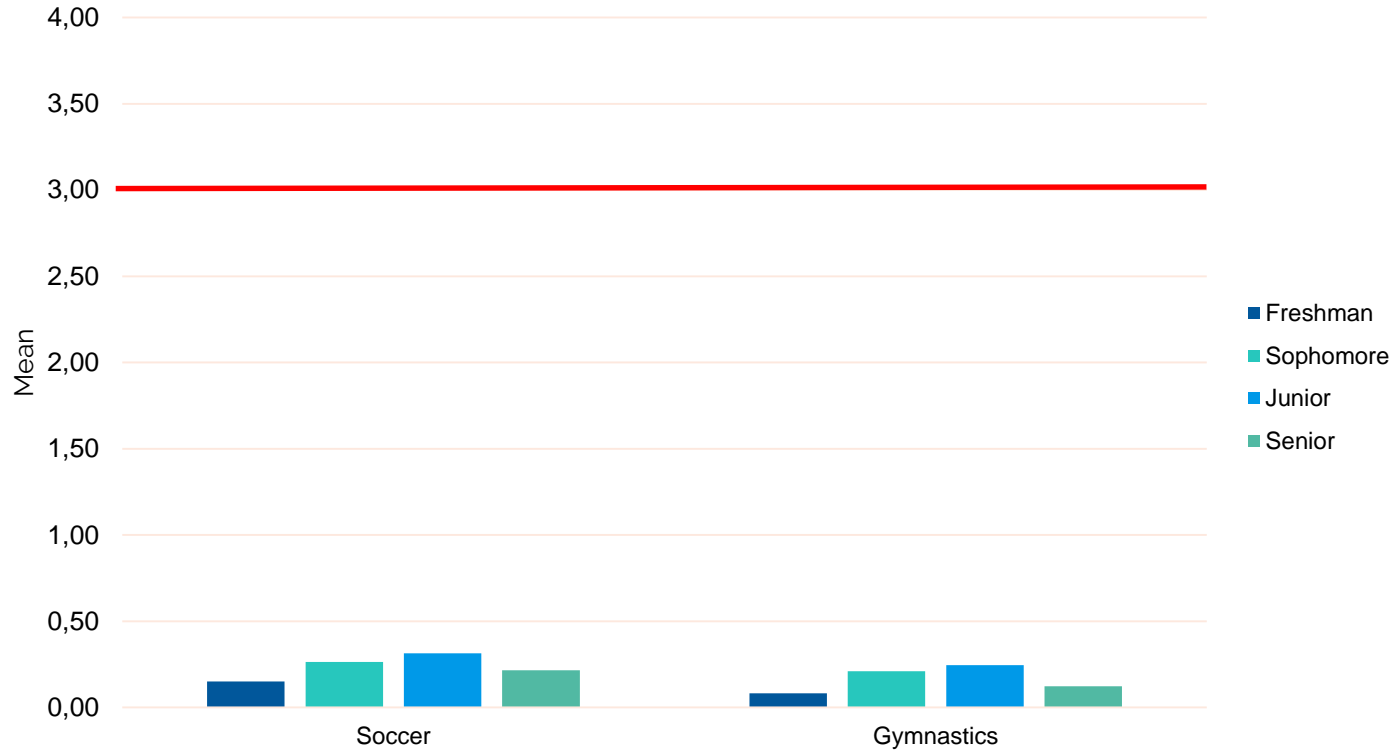
Keywords: content knowledge, teacher education, pedagogical content knowledge



Data Analysis & Findings

A multiple Anova and
Bonferroni tests

Content Map Scores



Conclusions

- PETE programs provide insufficient CK opportunities
- CK cannot be acquired from K-12 and extra-curricular learning
- Preservice teachers cannot acquire CK by being taught to play
- CCK and SCK must be taught explicitly

THANK YOU!

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