

Learners' Motivation Change in Concept-Base Physical Education

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Background

Students' expectancy beliefs and task values declined annually in language arts, math, and sports (Jacob et al., 2002) & in an elementary school running program (Xiang et al., 2004; 2006).

What does students' motivation look like in concept-based physical education?

Expectancy-Value Model

- **Expectancy beliefs: expectancy for becoming successful** (gauge the ratio of success)
- **Task values: perceived worth of doing a task**
 - **Attainment value:** Perceived importance
 - **Intrinsic value:** Perceived interestingness
 - **Utility value:** Perceived usefulness
 - **Cost:** Perceived barriers/negative aspects

Eccles & Wigfield (1995)

Concept-Based Physical Education

- Emphasize conceptual understanding
- “Sound mind in a sound body” (Ennis, 2007)
- Health-related fitness knowledge
 - Inherent values as motivators
 - Potential to develop and maintain motivation

Research Questions

- To what extent does expectancy-value motivation change over time?
- To what extent does motivation change relate to performance in learning health-related fitness concepts?

Methods

Participants:

N = 670 (Cohort 1: *n* = 329; Cohort 2: *n* = 341)
From 13 Schools

Unit of Analysis:

Class (*N*=26; Cohort 1: *n*=13; Cohort 2: *n*=13)

Design:

Followed up for 4 consecutive semesters

Variables and Measures:

Expectancy-value motivation
(Modified EVQ, Xiang et al., 2003)

Knowledge of HRFK (Standardized test)

Data Analysis:

Repeated Measure MANOVA,
Post-Hoc Multiple Comparison, Correlation Analysis

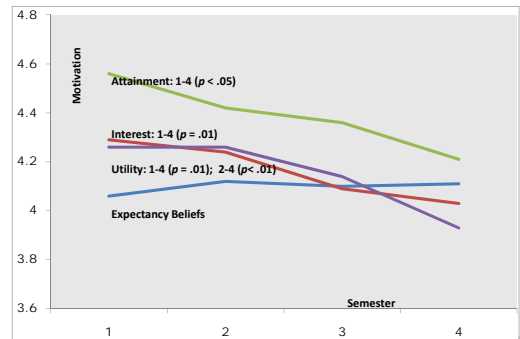
Descriptive Results

Variable	M/SD per Semester				
	1	2	3	4	Total
EB	4.06/.27	4.12/.15	4.10/.21	4.11/.24	4.10/.22
AV	4.29/.36	4.24/.27	4.09/.33	4.03/.31	4.16/.33
IV	4.56/.29	4.42/.31	4.36/.33	4.21/.36	4.38/.34
UV	4.26/.26	4.26/.29	4.14/.36	3.93/.34	4.15/.34
Knowledge	56%/9%	59%/8%	60%/8%	62%/12%	59%/10%

MANOVA Results

Variable	df	MS	F	p	η^2
Attainment	3	.33	3.40	.02*	.11
Interest	3	.43	4.10	.01**	.13
Utility	3	.53	5.39	.00**	.16

Motivation Change Curve

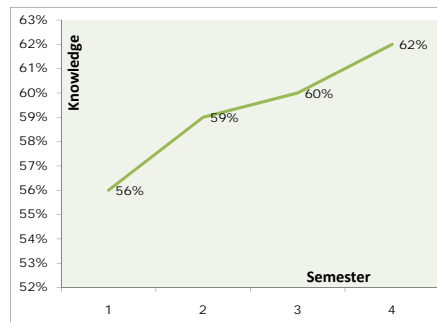


Motivation Change Curve

- Perceptions of task values decreased chronically since mid-upper elementary schools
- Expectancy for success remained high

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Learning Curve



Fitness knowledge grows gradually in midst of high expectancy beliefs and task value perceptions

Correlation Analysis Results

Motivation variables did not correlate with knowledge performance at the four measurement time points

Discussion

- **Interrogate our content for learning and engagement**
Foster expectancy beliefs and task values
Minimize perceptions of cost
- **Non-significant correlation b/t motivation and learning?**
Ceiling effect? – Motivation scores maintained high
Learning was attributable to other factors?

Thank You!