Spring 4-14-2021

High Hopes: Physical Education for At-Risk Preschoolers in Northeast Colorado

Jessica Honeycutt Firme

High Hopes: Physical Education for At-Risk Preschoolers in Northeastern Colorado

Jessica Honeycutt Firme

HPEP 402 HARK College of Education and Human Services, Longwood University

Despite Colorado having the highest rate of adult physical activity in the US, Colorado children rate far lower.

Introduction

The first few years of life have the most developmental impact on a child, therefore instilling the importance of physical activity best promotes healthy lifestyle behaviors especially those that may be at-risk for delays in the future. Studies have also shown that cognitive development in regards to memory, attention and self-regulation are also improved through participating in physical activity, especially in early childhood development. (Lu, 2016) Previous research supports the importance of physical activity during early childhood although the majority of early childhood education systems are far from meeting the recommended daily amounts of physical activity. Research found that children in early childhood education settings in the United States spent an average of 27 minutes in moderate to vigorous physical activity (MVPA) per day when the US national standard is almost five times that at 120 minutes per day. (Lu, 2016) In Northeastern Colorado, does daily structured physical education for at-risk preschoolers help improve critical skill development essential to this age group? Hopes are that physical education intervention will specifically help at-risk preschoolers and allow them to not fall behind in the coming years. Other studies have shown that the introduction of physical education curriculum in preschool may improve gross motor skills which in turn improve fine motor skills. Hopefully similar interventions can be successful in Northeast Colorado where at risk preschoolers range from developmental delays due to drug and alcohol abuse during pregnancy, previous neglect, being on the autistic spectrum as well as other undiagnosed reasons.

Research Question

In Northeastern Colorado, does daily structured physical education for at-risk preschoolers improve critical skill development essential to this age group?

Purpose Statement

Using the Successful Kinesthetic Instruction for Preschoolers-Universal Design for Learning (SKIP-UDL) curriculum, the purpose of this study is to compare fundamental motor skill proficiency of preschool classes receiving the physical education intervention throughout a school year with those control classes that are not. This will take place in Northeast Colorado where students' socioeconomic levels and abilities levels may vary in each classroom.

Method

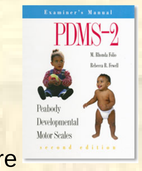
Participants

- Preschool aged students 3-5 years old
- Varying ethnicities and socioeconomic statuses
- Diverse abilities

Design

- Test retest strategy will be used to determine baseline of FMS
- PDMS-2 assessment by qualified personnel
- Experimental design using stratified sampling methods
- Control groups to ensure reliability
- Formative assessments throughout study
- SKIP-UDL inclusive intervention for experimental groups

Instrumentation



Fundamental motor skills (FMS) will be assessed using the Peabody Developmental Motor Scales Second Edition (PDMS-2)which uses a nominal scale 0-2. Scores are then added up and appendixes are used determines child's percentile. This will be administered by occupational and physical therapist before intervention starts and at it's completion.

Intervention

SKIP-UDL is an evidence based curriculum that uses universal design learning in an inclusive setting. This method supports all students regardless of performance ability or individual needs by providing a wide variety of equipment for their choosing as well as a instructions given in a variety of ways to appeal to all learners. (Taunton, 2017)

Procedure

- Obtain approval from Longwood Institutional Review Board
- Open houses at NE Colorado preschools to collect questionnaires, and obtain consent
- Questionnaires will include gender, race qualification for welfare, parental concerns, family history, complications during pregnancy or birth and incidence of neglect
- Questionnaires are analyzed to see which schools represent subpopulations
- Whole classes will be chosen
- Parents will be notified if student included in study
- Opportunity given to opt out
- Researchers will observe MVPA
- PDMS-2 administered to all children involved
- PDms-2 results will be sent home
- Potentially delayed children will need additional consent because vulnerable population
- SKIP-UDL training will begin with preschool teachers
- Intervention will start and include SHAPE Active Start guidelines
- Assessments will happen every 2 months assessing FMS fine and gross motor skills, cognition and social skills.
- Study will end at end of school year

Key

FMS- fundamental motor skills

MVPA- moderate vigorous physical activity

PA- physical activity

PDMS-2- Peabody Developmental Motor Scales 2nd Edition

SHAPE-Society of Health and Physical Education

SKIP-UDL- Successful Kinesthetic Instruction for Preschoolers-Universal Design of Learning

References

Taunton, S. A., Brian, A., & True, L. (2017). Universally Designed Motor Skill Intervention for Children With and Without Disabilities. *Journal of Developmental and Physical Disabilities*, *29*(6), 941–954. https://doi.org/10.1007/s10882-017-9565-x

Lu, C., & Montague, B. (2016). Move to Learn, Learn to Move: Prioritizing Physical Activity in Early Childhood Education Programming. *Early Childhood Education Journal*, *44*(5), 409–417. https://doi.org/10.1007/s10643-015-0730-5