# Self-Directed Learning in IB Calculus and an After-School Role-Play Game Club GEORGE ASON Beth Hosek | bhosek@gmu.edu EDRS 812 | Spring 2022 | CEHD | George Mason University UNIVERSITY

## **CONCEPTUAL FRAMEWORK**

- Self-directed learning, self-regulated learning, and self-efficacy skills are key to the growth of learners of all ages (Garrison, 1997; Kim et al., 2021; Pintrich & DeGroot, 1990)
- Self-direction and SRL develop in tandem in learners through the act of play (Chen et al., 2022; Ku et al., 2022; Nietfeld et al., 2014; Vygotsky, 1978; Wouters et al., 2013)
- > The International Baccalaureate Organization aims to foster SRL, self-efficacy, and self-direction (Lau et al., 2018)
- adolescents struggle maintaining their self-directedness and self-regulation through secondary school (Caprara et al., 2008)

## POSITIONALITY

I am a doctoral student in educational influenced by my experiences working within cognitive neuroscience, applied behavior analysis therapy, physical education, emergency management, and work with adolescent self-efficacy for SRL.

# **RESEARCH QUESTIONS**

- What are similarities and differences in learner SRL and selfdirection in an academic versus an extracurricular context?
- > How do teachers perceive the utility of self-regulation and selfdirection for learners across educational contexts?

# METHODOLOGY

### **Observations**

- > Two 1-hour observationsn (IB Calculus; after-school game club
- Sessions were recorded, thick field notes taken

### Interviews

## **Protocol Development (Carspecken, 2013)**

> Prepared descriptions of interviewees and covert questions > Initial and follow-up questions developed

## Interviews (Carspecken, 2013)

Audio recorded two 1-hour teacher interviews Data Analysis (Braun & Clark, 2006)

## Thematic Analysis

- Reflexive notes
- 2. Read through transcripts in full

1. Added researcher notes, meaning fields, and performed reconstructive horizon analyses

- 3. A priori and emergent coding
- 4. Revision of emergent code names for accuracy
- 5. Individual codes examined for overarching themes
- 6. Themes checked against original data

## RESULTS

#### Theme Name (Sources)

#### Engagement

- **IB** Observation
- Club Obs.
- AL Interview
- PL Interview

#### Rapport

- IB Observation
- Club Obs.
- AL Interview
- PL Interview

#### Scaffolding **Regulatory Skills**

- IB Observation
- AL Interview
- PL Interview

#### **Self-Direction**

- Club Obs.
- AL Interview
- PL Interview

#### **Co-Regulation**

- Club Obs.
- PL Interview

### **Social-Emotional** Learning

AL Interview

#### Sample Quotes

"...I'm kind of like in touch with, like, how kids think, 'cause I'm just a giant man-child...I was one of these students. That's why I understand them...if I could go back in time and teach myself, what would make me interested?" (PL, 043216)

"...rapport is necessary at every level. It doesn't matter what, how old the child is. You need, they don't, they won't work for you if they don't like you." (AL, 024609)

"...every other class is, here's a packet of notes. Just fill in the blanks. And I hate doing that because, but that's the only way, like the majority of kids will take notes now...the IB kids...They're all scratching in their notebooks...if they go to college, they're going to be ready to take notes in college." (PL, 040519)

[When asked about student experiences with the IB final paper] "Do you show a personal interest in this? Is this relevant to you that you feel...like this is something you were actually interested in? So you can actually earn points for that." (PL, 041333) "I asked people who were comfortable with DM-ing if they wanted to be DMs at little tables. I was going to actually have them rotate. And so they could, so that the players could see different styles of DM-ing and then instead they just ended up really loving, like wherever they were at. And this I've just like, let them do their thing." (PL, 035806) [On the addition of flexible seating] "....I stopped having as many behavior problems because I said...you know...I don't always like to work the same way every day." (AL, 031925)

Figure 1 **Preliminary Themes from Most to Least Prominent** 

# **DISCUSSION/CONCLUSIONS**

#### Summary of Findings

- > Teacher perception indicated both contexts showed selfdirection held importance
- regulation or co-regulation
- neglected by the research questions
- both were observed in the learning contexts

## **Relationship to Prior Literature**

al., 2018; Vygotsky, 1978)

#### Limitations

- amount of data was lost
- - questions

### **Future Research**

- with that of teachers'
- elective educational contexts
- support learners

# **REFERENCES AND SUPPLEMENTS:**

More prominent in the club > At this level self-regulation was not as prominent as scaffolded More prominent in the IB course Engagement and rapport seemed to be important ideas > Teachers indicated these were vital to student success, and

> The IB curriculum and the club both promote adolescent student growth through self-direction and co-regulation in academic and play contexts, as a time when this population normally struggles (Caprara et al., 2008; Garrison, 1997; Lau et

> Observational audio quality was poor, and so a significant

> One teacher was currently teaching in an elementary school  $\succ$  This provided interesting developmental perspective, but broadened the scope, unfocused the research

> Teachers indicated focus of questions may need to be adjusted

> Examine the relationship between self-direction, self-

regulation, and engagement across educational contexts

> Engage with students to examine if their perspectives align

> See if the same principles can be observed in other non-

> Examine if an intervention can foster these constructs and

