Final Analysis Report

Beth Anne Hosek, M.S.

College of Education and Human Development, George Mason University

EDRS 812: Qualitative Research Methods

Dr. Meagan Call-Cummings

Spring 2022

Methods

The objective of this study was to use an ethnographic lens (Carspecken, 2013a, 2013b) to explore the following research questions:

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

Research Site

IB Calculus Classroom

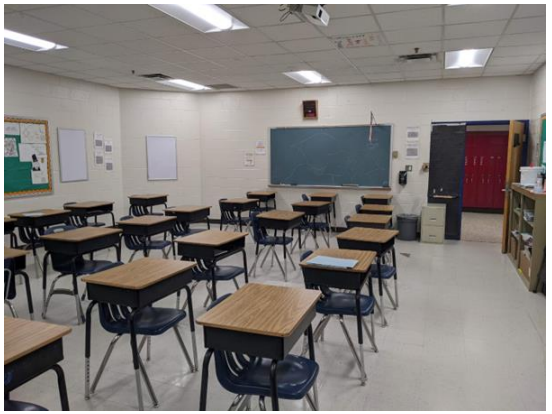
As you enter PL's classroom, you are presented with a line of sight straight ahead to the teacher desk. It seems to be a rather standard desk, with a particle board surface covered in wood grain-print contact paper, with drab beige sides and shiny metal legs that form a frame. On the desk is a thermos, presumably filled with coffee. Surrounding the thermos is two laptops and a slew of papers, calculators, pens, paperclips, and a singular bottle of hand sanitizer. Behind the desk is a box of papercraft decorations and miscellaneous crafting supplies, a large black oscillating fan, and an outlet embedded into the stark painted-white cinderblock wall. A large cathode-ray tube television sat on a mount, facing the wall. Underneath the television was a tan cabinet covered in stickers, an assortment of chargers, cables, and papercraft decorations, and a singular orange balloon with "Desi is my WIFE" written on one side, and a comical cartoon face on the other. To the right of the desk is a supply table, surrounded by plastic bins filled with folders, textbooks, Dungeons and Dragons sourcebooks, miscellaneous papers, and more sundry items. Extra chairs and one extra desk sit to the right of this table, and in the back corner of the

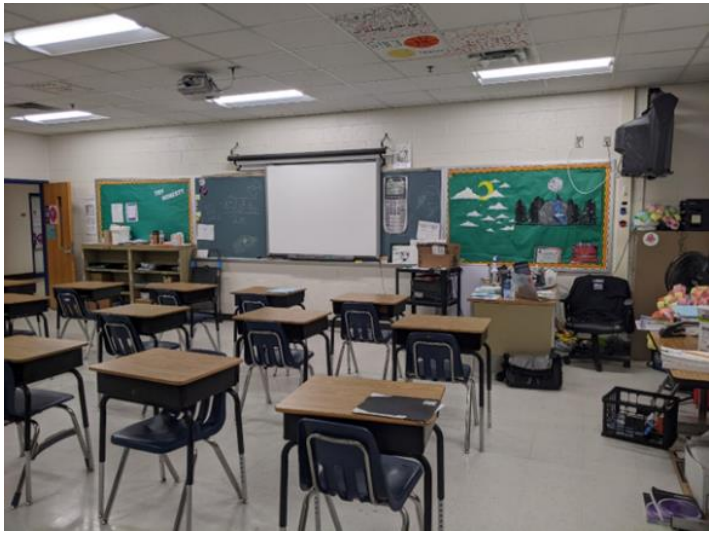
room is a large, closed storage cabinet, covered in the same wood grain contact paper as the teacher desk, with papercraft decorations resting on top.

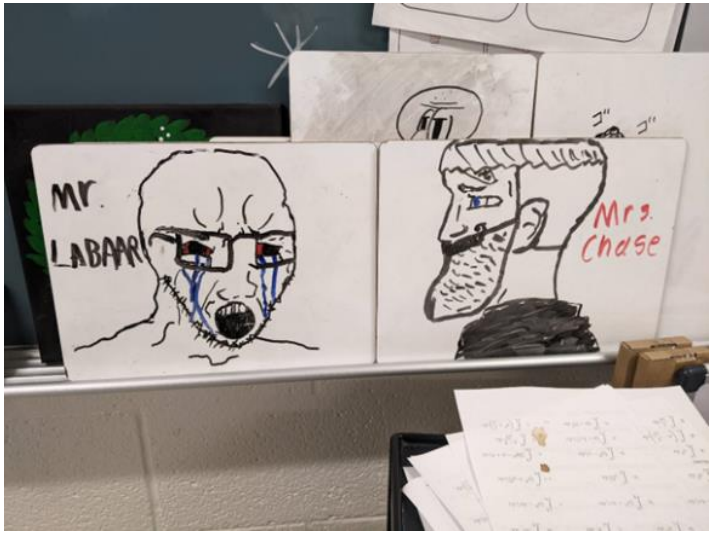
To your left as you enter the room, there is a smartboard centered on the wall with a green chalkboard mounted behind. On the smartboard is a slide with three integrals lined up next to each other. To either side on the chalkboard are notes about homework and math problems on blue- and peach-colored papers. Taped onto the cinderblock wall and bulletin boards surrounding the boards are student drawings, many of them in the style of Japanese anime, with captions akin to the latest meme trends. On the closest part of this wall to the entry door is a storage shelf filled with miscellaneous classroom supplies. A stepstool leans on it on the side next to the board.

The remainder of the walls are rather plain compared to these two sides of the room. On the wall where the entrance door is located, a large green chalkboard is hung, and it appears a student has drawn a large flower. Three-quarters of the flower is visible, with the center of the flower in the top right corner of the board, and long, tapering, pointed petals extending across the board. The whiteboards on the back wall of the classroom are unused, as well as one of the bulletin boards. The other bulletin board on the back wall contains more student art, similar in style to the art that can be seen at the front of the room. On the back wall in the corner by the large storage cabinet is a second door. About 25 desks make up the center of the room. They are almost lined up in almost neat rows and columns. One of the desks has a chair pushed in backwards facing the back wall of the room. There are no windows in this room.

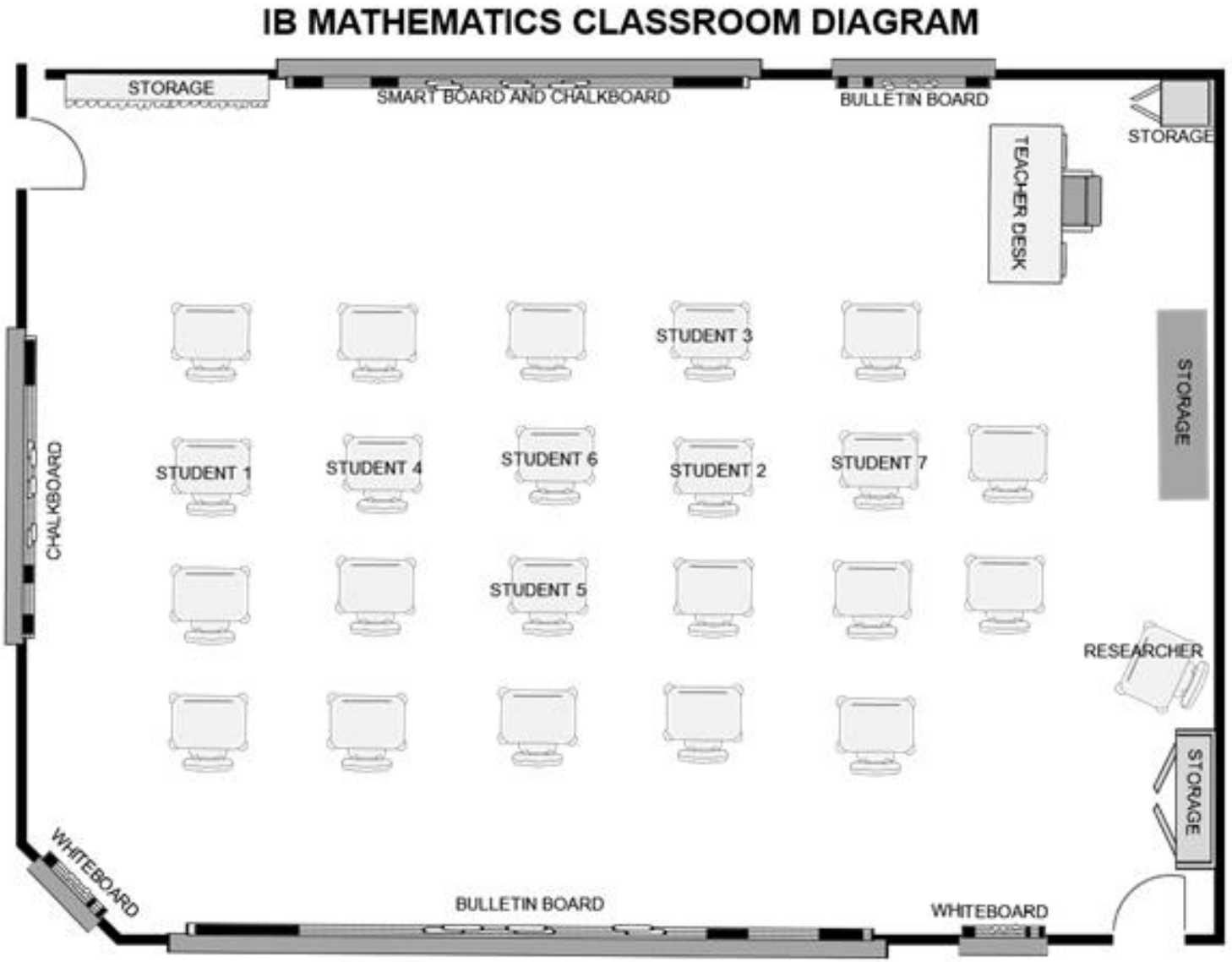
Pictures of the IB Space







IB Classroom Site Diagram



Tabletop Role-Playing Club

The roleplaying club took place in the school's library. When entering the school, to the right of the main entrance, the library's location is indicated by a sword-shaped sign hanging from the ceiling, with the tip of the blade pointing to the right, and "LIBRARY" painted on the blade. The entry wall of the library is made up of glass windows with blue metal frames and occasional brick pillars. You enter through glass double doors and walk through two theft detectors. To either side of you are metal wire shelves with a small selection of books, and directly in your line of sight you can observe a menagerie of stained pine furniture, tables large and able to accommodate eight to ten people, and chairs and couches with blue woven upholstered cushions. These chairs and tables are outlined and set apart in the center of the room by stained pine bookshelves. There are two four-foot-tall shelves parallel to the entry doors, roughly 20 feet into the room, one to either side of the entry doors. On the right side of the library are several six-foot tall, stained pine bookshelves filled with young-adult reading levels books. This line of shelves is continued catty-corner in the back left and right corners, as well as along the back wall, lit up by the afternoon sun spilling through the wall of windows facing the school parking lot.

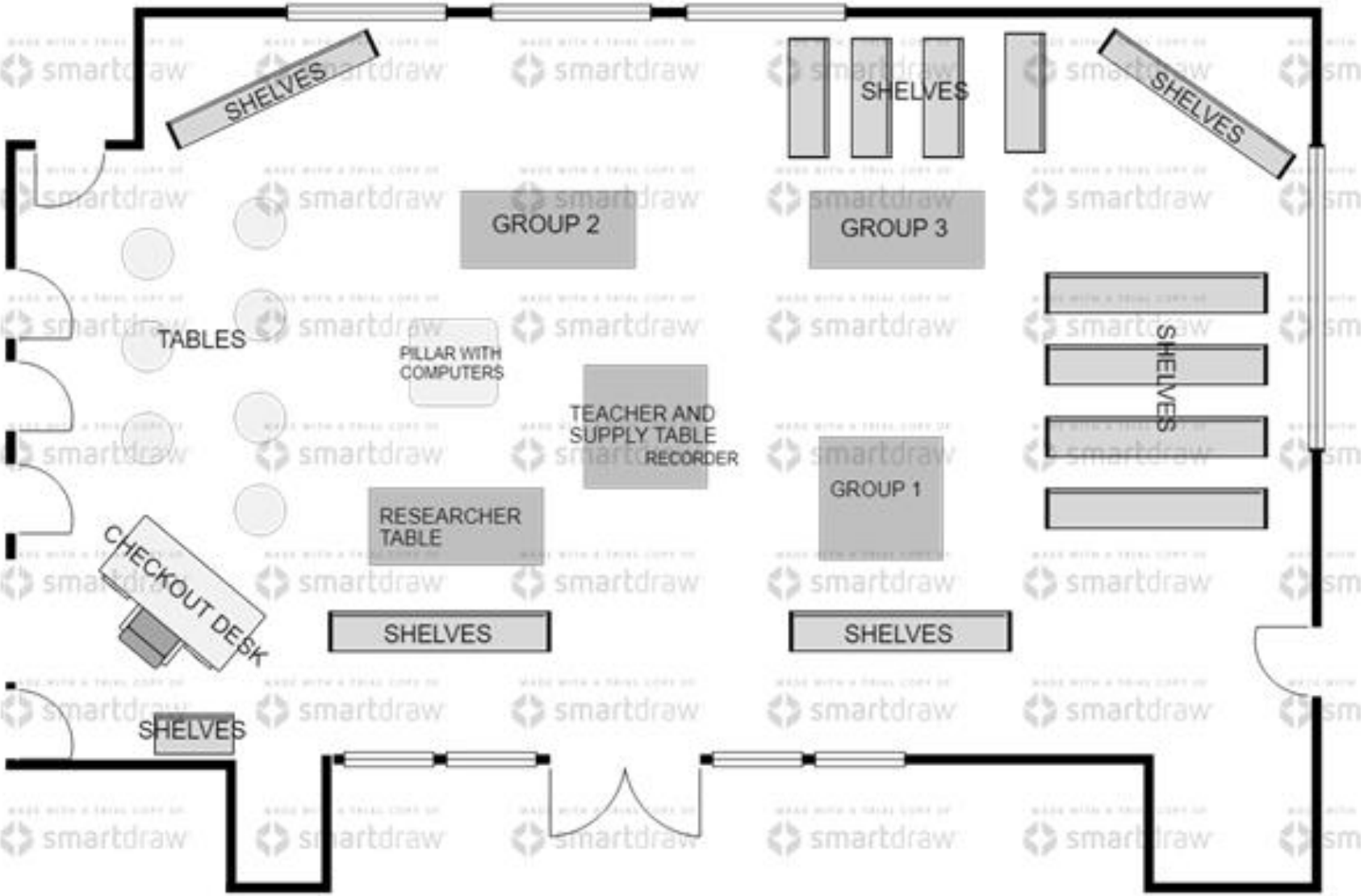
The left side of the library from the entry way contains seven circular tables at bar height, with four barstool-height blue plastic chairs at each. At the front corner (left of the entry doors) is the librarian's desk; it is catty corner, has a stained pine desktop and a black chalkboard painted front face, covered in motivational, school spirit messages. On the desktop are various office paraphernalia, including a copier, papers, computer monitors, etc. Behind the desk are two grey and black upholstered office chairs and a few library carts with a smattering of books waiting to be re-shelved. Next to this, the left wall of the library has several doors, to hallways, to offices,

and emergency exits. Some are closed, with the rooms behind dark. The door closest to the librarian's desk, however, is opened and the hallway behind the door is bright and active, with teachers bustling around wrapping up their days. Creating a line dividing this part of the library and the central cluster of tables is a brick pillar. On this brick pillar, a desk was installed to wrap around the pillar at bar height, covered in wood-grain contact paper. There are four desktop computers on this desk, one for each face of the pillar. Each computer has a bar height blue chair for users.

When I entered, I beat PL to the room, but all his students had already arrived; it was as if as soon as the bell indicating the end of the day sounded, they teleported to the library. They had broken down into their groups but had not yet sat down, milling about, and choosing their tables. Conversation was loud, boisterous, and students were smiling. PL entered from the hallway by the librarian's desk, carrying a large bin filled with supplies including Dungeons and Dragons books, papers, writing utensils, and more.

Pictures of Club Site

Club Site Diagram



Participants

Participant 1: PL

The first participant, PL, is a 34-year-old, white, male high school mathematics teacher. He has five years of teaching experience in high school classrooms in Spotsylvania County, VA, US. He currently teaches IB Calculus and Algebra II at a rural high school that has recently been involved in social justice issues spotlighted in the news. As a hobby, this participant plays tabletop games, including tabletop roleplaying games, and for the past two to three years has worked to establish such a club for students at his school.

Participant 2: AL

The second participant, AL, is the wife of the above teacher. She is an approximately 27-year-old, white, female, elementary school art teacher. She has five years of experience in PK-12 classrooms in Richmond, VA, US, and the surrounding areas. She currently teaches art classes for students in kindergarten to fifth grade at two rural Title I elementary schools in Louisa, VA, US, and is licensed to teach art, photography, digital media for elementary through high school students. As a result of this education and certification, she is well versed in learning throughout development. Additionally, AL collaborates with PL on resources for students participating in the tabletop roleplaying club at PL's high school.

Procedures

Participants were asked to and agreed to participate during the second quarter of the academic year. At this time, verbal consent was obtained following a discussion of study procedures, expectations, and notes regarding consent and confidentiality. Data were collected

through two observations during the fourth quarter of the academic year, followed by two semi-structured interviews one week later.

Observations

For this study, ethnographic observations were performed and data were collected according to Carspecken (2013a). The researcher positioned herself in each space as an outside observer, passively participating in the activities with minimal interaction with other participants. Both observations were recorded using a small audio recorder placed somewhat inconspicuously near PL to collect maximally accurate data while minimizing impact on students in the space as they were not participants in this study. In addition to audio recordings, field notes were taken in a researcher journal using a physical pen and notebook. This researcher journal had pages divided into three columns: the leftmost column was labeled "Time" to indicate when during the observation a note was taken; "Bx" to indicate low inference notes related to participant behavior; and "OC/RN", to indicate a space for higher inference observer comments and researcher notes. Following transcription, observer comments would be added in-line according to the time stamps to clarify behaviors. Also at this time, researcher notes would be added at their respective time stamps in the form of transcription memos. Both observations took approximately one hour each.

Development of Interview Protocol

The semi-structured interview protocol used in this study was developed according to Carspecken's (2013b) approach. Initially, descriptions of each participant were assembled, followed by a statement of the topic domain to be addressed. An initial question to present to each participant was composed. Covert categories were noted to both clarify the nuances of the

given topic domain, as well as provide holistic structure for the interview. Follow-up questions were then developed in anticipation of potential directions the interview could take. Finally, the interview protocol went under review by an expert qualitative methodologist for protocol validity. The semi-structured interview protocol can be found in Appendix A.

Interviews

Interviews were conducted one week following the observations. Both interviews lasted approximately one hour, were conducted in person, and were recorded for later transcription with consent.

Data Analysis

Prior to data analysis, audio recorders were transcribed and cleaned in *Descript*, an audio transcription software. Observer comments were input inline in the transcription text. Cleaned transcriptions were imported into a qualitative analysis software, MAXQDA (VERBI Software, 2021). Researcher notes were input into MAXQDA in the form of memos. Data were then analyzed using a thematic analysis approach as outlined by Braun and Clark (2006). Initially, each transcript was read through several times by the researcher to establish familiarity with the data. Notable excerpts were highlighted for analysis by the researcher through the use of the highlight tool in MAXQDA. These highlighted excerpts were color-coded according to constructs relevant to ideas laid out in the research questions, as well as the covert questions in the interview protocol. An additional “emoticode” (a unique coding symbol in MAXQDA) was assigned for emergent ideas not accounted for by the research or covert questions.

Highlighted excerpts were then coded using descriptive or open coding, according to ideas that emerged from the data. Codes were titled using phrases structured as if they were

stated by the participants. Additionally, each of these codes was labeled according to the level of inference required to come to that conclusion: “HI” indicated high inference; “MI” indicated moderate inference; and “LI” indicated low inference. Following this process, the initial highlighted codes were removed from excerpts to reduce duplication of data and inflation of code frequencies. It is also worth noting that one of the major ideas addressed in the covert questions as well as the coding scheme was “Activities;” these were broken down within the coding scheme according to activity context with the intention of being able to use MAXQDA’s visualizations tools to examine how emergent concepts and themes overlapped with different contexts.

Following the coding process, coded excerpts were then categorized based upon subconstructs and concepts based upon the literature related to the constructs both addressed by the research questions and emergent ideas. These categories were provided with definitions within MAXQDA as memos. Finally, based upon the findings, a table was developed to summarize the emergent categories and overarching themes related to the research and covert questions.

Positionality

The researcher is a doctoral student in educational psychology, with a specialization in the intersection of self-efficacy for self-regulated learning and school mental health in adolescents. Her master’s degree was completed in educational psychology, and her bachelor’s in neuroscience. She is influenced by her experiences in applied behavior analysis therapy, physical education, fire and rescue emergency management, as well as self-regulation, learning, and memory research. She identifies as a European American nonbinary person.

Validity

Validity procedures were implemented according to Ravitch and Carl (2021). Multiple data sources allowed for triangulation of data. The interview process was used as a member checking procedure, and the researcher confirmed her understanding with participants throughout through active listening and low inference statements. Peer debriefing was also utilized by the researcher throughout the entire process of the study.

Results

Results are summarized in Table 1. Four major themes emerged from the data, each with respective subthemes. The four major themes were: engagement, greater learning context, regulated learning, and self-determined learning.

Engagement

Engagement was the most prominent idea that emerged from the data. This theme refers to the idea that students can show observable ways they engage in activities. The idea of engagement was made up of several subthemes. Behavioral engagement was the strongest idea that showed how students involve themselves in activities. Student actions were connected to the knowledge they possessed, the forethought they put into their behaviors, and that it is typically easier for individuals to act when motivated by someone or something they feel positively towards. For instance, AL discussed flexible seating as a tool she used to facilitate student behavior with respect to task completion through student ability to focus on the class activities. Without such a tool, it was difficult for students to exhibit behaviors related to classwork.

Social engagement was another idea addressed related to engagement overall. This subtheme specifically addressed how students involve themselves in activities through their

interactions with others. This may manifest through how students interact with their peers, the social contexts that surround students, the support provided to students by their teachers, or how they observe others acting. For instance, throughout the tabletop role-playing club observation, students who interacted with other students exhibited more involvement in games. This observation was corroborated by PL's interview, where he discussed the social support systems facilitating student involvement.

Another subtheme of engagement is cognitive engagement, or how students involve themselves in activities through their thoughts. This was supported by teacher actions fostering student knowledge development. Furthermore, it was noted that it was easier for students to think about things they care about. Both AL and PL reflected upon this in their interviews. Regardless of discussion around elementary, middle, or high school students, whether the discussion touched on elective courses, core courses, or extracurriculars, the importance of students understanding what they were doing so they could proceed with an activity was emphasized. Furthermore, PL brought to light the idea of using one's actions to foster knowledge growth, adding depth to the concept of cognitive engagement.

Affective engagement was a subtheme that specifically examined how students involve themselves in activities through their emotions. Generally, it was noted that students would engage in activities they enjoyed and would struggle to engage when they were frustrated. Furthermore, teachers care deeply about providing students with experiences they enjoy but are also cognizant that students need to like and trust them to enjoy learning. For instance, PL repeatedly reflected on how student caring was core to their completion of math activities, and if they did not show emotional investment, it was difficult for both him and the student to foster task completion.

Agentic engagement is the final piece of engagement that emerged. This refers to how students involve themselves in activities through their own decision making. The data showed that it is important for individuals to direct their own actions when learning, regardless of context. Teachers are responsible for providing students with the tools they need to do so, but it is important to note that what teachers want from their students does not always match up with what students want. AL provided the clearest emphasis of this idea through her explanation of her use of rubrics and checklists to allow students to meet educational standards while making all other decisions themselves related to their work.

Greater Learning Context

The second most prominent idea to emerge from the data was the greater learning context surrounding learners. This theme emphasized other contextual factors within the learning context that impacted learners. School connectedness was a subtheme within the learning context. This related to the community context of the school in which learners and teacher participated. This subtheme was composed of the ideas that people in school contexts should care for each other and participate in a school community. This includes consideration of student families when making decisions within school contexts. For instance, PL touched on how naming the tabletop role-playing club was difficult due to the conservative nature of his school's district, as well as the somewhat fraught history of *Dungeons and Dragons*. Respecting both the social needs of students as well as the values of families was important to this process.

Teachers also discussed resources available, or tools available to students within the school context. A wide range of ideas were considered resources, including school staff, families, and peers. Furthermore, the need for financial support of schools and classrooms was discussed. PL discussed this with respect to the connection between standardized testing and

school funding, expressing frustration as a result of the link between the two concepts. In addition, both AL and PL referred to how they used themselves as a resource for their students to grow, whether with respect to thinking about the future or simply developing skills.

Social-emotional learning was key within the greater learning context. This idea relates to how students learn skills that allow them to manage and understand their emotions and how they relate to others. Educators foster this through teaching them how to act properly in social contexts, as well as practicing the skill of working with their feelings. Teachers also provided the opportunity for students help each other learn to work together during learning tasks. PL discussed this when talking about how his students connected and supported each other during the tabletop role-playing club. AL spoke about this deeply when reflecting on the traumatic backgrounds some of her students came from, successes she experienced helping individuals work with their emotions, and struggles she still saw students having. These included failures of the school system to provide students with the social-emotional learning support they needed, to the point one of her students ended up in juvenile detention for threats of violence.

Curriculum standards also emerged from the data. Teachers discussed policy-mandated student expected progress, how this progress was measured by both teachers and standardized testing, and how progress was fostered in IB courses. In addition to the discussion mentioned above regarding the relationship between standardized testing and school funding, PL and AL reflected on assessment of student progress through various tools. This included rubrics and projects, and how this was reported to school officials.

Teachers also emphasized the importance of human development during the K-12 age range when reflecting upon education. In particular, they emphasized that students require time to develop skills, such as motor skills, social skills, and self-responsibility. AL discussed her

fifth-grade students' struggle with social skills, and a first grade students' difficulty with motor skills. PL touched on the time it can take, not only to gain the neural development to process abstract math, but also the time, space, and support all students need to develop any and all skills.

COVID was the final idea that emerged from the data. More specifically, teachers reflected on how the COVID-19 pandemic made teaching a more difficult job. Though this was a minor theme, both AL and PL reflected on loss of learning and lack of social skills on the part of their students. This hindered their normal abilities to teach by pushing them to teach multiple years' worth of skills in a limited amount of time; this was contradictory to the idea of development listed above.

Regulated Learning

Regulated learning was another broad theme that emerged from the data. Using Zimmerman's (1990) model, regulated learning refers to how students plan before an activity (forethought), self-monitor during an activity (performance), and think about their work after an activity (reflection). Within the data, this idea emerged in three forms: teacher-guided regulation, self-regulation, and co-regulation. Teacher-guided regulation referred to how self-regulation skills were prompted or scaffolded by educators. Teachers provided structures for students to regulate themselves, and these structures were guided by school contexts; an example of this was PL's discussion of the IB course final project all students must complete. Such structures provided students with the skills students need to act across contexts. This knowledge was imparted through teacher involvement in activities important to students, including the tabletop role-playing club. Teachers did note, however, that this was not always an easy task, describing difficulty with students cheating, stealing, and aggression towards other students..

Self-regulation mirrored Zimmerman's (1990) model outlined earlier. The three phases were reflected in the data. Teachers typically reflected on forethought by discussing how they used what students enjoy to be able to teach students how to plan, as well as consider external factors when they are doing so. They also noted they foster student help-seeking during this stage. Teachers typically discussed the performance phase by discussing how they aimed to help students connect their thoughts and their actions. The reflection phase was also touched on through supporting student comfort with imperfection through the learning process; AL provided an example of this by discussing teaching her kindergarteners to listen to music and make their crayons dance across their paper, with no right or wrong way of doing it. More holistically, teachers discussed how their students used examples to learn how to be self-responsible and explore what their needs are; this might have been in the form of AL's flexible seating, or PL supporting student exploration of what math course they may need for their careers. This was often hindered by school contexts, however, with schools limiting resources, or creating arbitrary academic requirements that may not apply to all students' needs.

Finally, co-regulation was discussed as a component of the theme of regulated learning. This was the ideas that students could work together to move through the phases of self-regulation. The data showed how peers, activities, and school contexts all worked together to support regulation. Furthermore, teachers could facilitate co-regulation by working with the needs to the students. Through this process, teachers could support students learning how to regulate outside the classroom.

Self-Determined Learning

Self-determined learning was the final and least prominent theme to emerge from the data. This idea referred to how students determine their own actions in the learning context. It

was composed of three subthemes, including autonomy, competence, and relatedness.Autonomy refers to how students make decisions on their own. This was comprised of ideas around the importance of enjoyment of one's own actions, and to come to those actions through one's own decisions. This manifested relative to AL's art projects, where students drive all decisions aside from academic standards; or the IB final project, where PL supported students in selecting relevant projects to meet IB criteria, including personal relevance. In addition, teachers discussed the importance of rules during the decision-making process, and how they educated students on how to speak up for themselves. PL fostered this in the tabletop role-playing club by using the game rules to provide structures for students to guide their agency and voice at the table.

Competence refers to student capability to complete a task. Teachers noted this emerging in their work through their provision of skills to students so students could succeed on their own, even if those skills are not yet perfect. They also noted that they believe in their students' ability to succeed, even if their students struggle to perform actions or believe in their ability to do so. Both participants discussed student hesitance to act without complete knowledge of what to do, and both believed in their students' ability to complete tasks set in front of them. Both AL and PL found it important to give students the skill and support they needed to believe in themselves to complete activities important to them. This leads to the subtheme of relatedness. Relatedness refers to the relevance of the task and context to the student. Teachers directly reflected on how this manifested in the social context of the students and needing to teach students social behaviors, including fostering their relationship with the student. This all built into the idea of the content of learning being relevant to students. Whether in AL's art classes, PL's IB class, or the tabletop role-playing club, relevance of activities were fostered for students.

Table 1

Summary of Themes from Most to Least Prominent

Theme	Definition	Related Codes	Sample Quote
Engagement	Observable involvement in an activity		"...they won't work for you if they don't like you." (AL Interview, AL, Line 49)
Behavioral Engagement	How students involve themselves in activities through through their actions	It is easier to act for someone/something you like (HI); Knowledge facilitates action (HI); People should think through their actions (HI); Action facilitates knowledge (HI)	"I gave him a clipboard and let him sit on the floor. Right. And he, and he, he rolled around on the floor (OC: increased pitch and volume) and was on his stomach or upside down sometimes, but he did all his work." (Al Interview, AL, Line 107)
Social Engagement	How students involve themselves in activities through their interactions with others	I want to support my students' actions (MI); It's easier to participate with peers (HI); We have to consider social contexts of student activities (HI); We can learn by watching others (HI)	"So like that's that's so that took that situation where he was a little frustrated because his stuff was getting a sudden, like I gave him that and then like, suddenly that, that completely changed the dynamic of that. Right. And everybody really enjoyed it. Cause it was, it was fun. It's fun thing to kind of think about." (Pl Interview, PL, Line 215)
Cognitive Engagement	How students involve themselves in activities through their thoughts	My actions help students gain knowledge (MI); It is easier to think about things you care about (HI)	"...every other class is, here's a packet (OC: elongates word) of notes. Just fill in the blanks. And I hate (OC: emphasis) doing that because--, but that's the only way, like the majority of kids will take notes now." (PL Interview, PL, Line 95)
Affective Engagement	How students involve themselves in activities through their emotions	Students will act if they like the activity (MI); I want to give my students experiences they enjoy (MI); It's hard to act when you're frustrated (MI); I need my students to like me for them to like learning (LI)	"I already had some, (small sigh) I feel a little heartbroken because (pause) some people were talking about (pause) some things for next year and like, (high pitched sound, as if grimacing) that sounds good. (high pitched voice)" (PL Interview, Pl, Line 81)
Agentic Engagement	How students involve themselves in activities through their own decision making	It is important to direct your own actions (HI); I give my students the tools to act the way they choose (MI); What I want sometimes differs from what my students want (HI)	"I feel like they don't get a lot of autonomy in other classes." (Al Interview, AL, Line 83)
Greater Learning Context	Related to other contextual factors within the learning context		"I'm okay if he was just to pass the buck and be like this totally was Mr. [PL]. (Exaggerated, as if sarcastic?) He's the one teaching your kids Satanism, I guess. (BH and

Theme	Definition	Related Codes	Sample Quote
			PL laugh) Uh, yeah, (pausing, as if collecting thoughts) so like I had to make sure to make sure, like, because parents...” (PL Interview, PL, Line 31)
School Connectedness	The community context of the school	Teachers should care for their students (MI); People need to feel like they are part of a community (HI); You have to consider families when considering students (HI)	“He just made a spot for the nerds to exist.” (AL Interview, AL, Line 13)
Resources	Tools available to students	School staff are resources for students (HI); All classrooms need financial support (HI); Families are student resources (MI); Peers are resources for students (HI)	“...it's hard to push education because education is for more education. (OC: said slowly, deliberately) Right. And the majority of those kids are not going to college. Yeah. And I look, and it's not an insult. It's not a bad thing they're not going to college. It's not because they're not smart or anything like that, or not capable. It's that, what's the point? (OC: pauses) Right. They can get some jobs that are just as well- paying, right? And required--. Don't require 50, 60, $70,000 worth of debt. So like, it's hard for me (OC: emphasis, pause) to push (OC: emphasis, pause) these advanced math classes. These upper-level-- like algebra one, geometry and algebra two, those, those are kind of advanced math classes. Those are abstract math classes. Those are academic-- academic, (OC: emphasis) math classes. Right. It's hard for me to push those on kids when I know that. (OC: pauses)” (PL Interview, PL, Line 139)
Social-Emotional Learning	How students learn skills that allow them to manage and understand their emotions and how they relate to others	I teach my students how to act properly in social contexts (MI); I try to help my students work with their feelings (HI); Students help each other learn to work together (HI)	“...would get really frustrated with himself because he couldn't focus enough to do anything or couldn't focus enough to follow the directions.” (Al Interview, Al, Line 107)
Curriculum Standards	Mandated student expectations and the school, local, state, and national levels	My students should gain specific skills in my class (MI); Standardized testing hurts education (MI); IB classes have varying utility (MI)	“It's the SOLs, the standardized testing, it liter-- literally destroyed everything.” (PL Interview, PL, Line 175)
Development	How humans develop during the K-12 age range	Students need time to develop skills (MI); Students learn social skills over time (MI); Students learn to be self-responsible over time (MI)	“...these are teenagers that they, according to child development, you know, that, that, that part of their brain that handles abstract thinking isn't fully developed yet. Right. So it's, to me, it's weird to teach algebra at such a young age.” (Pl Interview, PL, Line 121)

Theme	Definition	Related Codes	Sample Quote
COVID	The COVID-19 pandemic	COVID made teaching harder (LI)	“COVID (OC: higher pitch, pauses) even like my best (OC: emphasis) students were cheating.” (Pl Interview, PL, Line 145)
Regulated Learning	Using Zimmerman's (1990) model, refers to how students plan before an activity (forethought), self-monitor during an activity (performance), and think about their work after an activity (reflection)		“...go forth and make your own artwork about what you want within constraints of what I've given you.” (Al Interview, AL, Line 67)
Teacher-Guided Regulation	Self-regulation skills prompted or scaffolded by educators	I give my students structure to regulate themselves (MI); School contexts guide how I support my students (MI); I teach the skills my students need to act (MI); Helping my students regulate is hard (HI); I get involved with my students’ interests (LI)	“Cause he helped them make starter characters. (OC: speech accelerating) And he made some, we talked through like an, a, like a training course. So like they made like dexterity challenges and wisdom challenges, and intelligence challenges, like things they would, they would have to use those skill checks for, to know how they worked. (OC: as if listing examples to make a point) And then he kinda like sent them off .” (Al Interview, AL, Line 21)
Self-Regulation	Using Zimmerman's (1990) model, refers to how students plan before an activity (forethought), self-monitor during an activity (performance), and think about their work after an activity (reflection)		“...you look at something that's famous and you attempt to replicate it, um, in an attempt to learn.” (Al Interview, Al, Line 57)
General	How students engage in SRL holistically	School contexts don’t help my students manage themselves (MI); My students can be self-responsible (MI); We can learn from examples (MI); Students learn what their needs are (HI)	“And so like when they come in and then don't do anything, part of me is just like, oh, okay. (OC: exaggerates words) That's-- you're choosing not to do anything. Is it-- isn't part of teaching, like showing that there are repercussions to not doing anything? Right. Cause then like, then he's got a deal--. So he's got to deal with the, whatever comes from not doing that thing. Right. That's almost as much of a learning moment I feel like, (OC: pauses) but then are they really learning from it?” (PL Interview, PL, Line 131)
Forethought	How students prepare before engaging in an activity	Planning is important to learning (HI); External factors are important when planning (MI); I	“...we call it a think sheet. So they have to come up with this thumbnail sketch of what they're going to do. Is it just your face? Is it a whole pose? Is it, um, (OC: pauses)

Theme	Definition	Related Codes	Sample Quote
		teach my students to ask for help (MI); I value what my student enjoy (MI)	whatever. So you had to come up with a little sketch. You have to tell me what style you're doing." (AL Interview, AL, Line 65)
Performance	How students do during an activity or task	Students should connect cognition and action (MI)	"They're all scratching in their notebooks. They take-- they're-- if they go to college, they're going to be ready (OC: emphasis) to take notes in college." (PL Interview, PL, Line 95)
Reflection	Student evaluation and judgement of self following completion of a task	I want my students to be comfortable with imperfection (MI)	"Math is kind of weird. Cause there there's... there is, can you do it? And (OC: emphasis) do you understand it?" (PL Interview, PL, Line 119)
Co-Regulation	Students working together to move through the phases of SRL	My students work together to regulate (LI); Activities help my students regulate (MI); School contexts influence how my students regulate together (MI); I have to work with my students' needs for us to learn (HI); We are learning how to regulate outside the classroom (LI)	"I think it depends on the class dynamic and how exactly the class is maturing. If they're mature enough to have free reign of the studio and to clean up responsibly, because that's part of it too, you have to take care of the supplies. It's a community space. You have to treat it like a community space. You're all responsible for all of it." (AL Interview, AL, Line 107)
Self-Determination	How students determine their own actions in the learning context		"It's okay, you're trying to make a teapot, but you can't figure out how to center on the wheel so that you can throw, let me show you how to center on the wheel one-on-one so that you can go apply that to make your teapot." (AL Interview, AL, Line 61)
Autonomy	Students making decisions on their own	It is important to make your own decisions (MI); It's important to enjoy what you do (MI); I teach my students to use their voice (MI); Rules are important to consider when making decisions (HI)	"You decide what you're going to do. You figure out how you're going to do it." (AL Interview, AL, Line 61)
Competence	Student capability to complete a task	My job is to give you skills to succeed on your own (LI); I believe in your ability to succeed on your own (HI); You don't want to do what you don't feel you can do (MI); It's okay to not have perfect skills (MI)	"We were talking through just challenges to get his kids to test because so many of them hadn't played or had like very little experience with it. And so you can't send them off to their own devices, if they don't know what to do." (AL Interview, AL, Line 25)
Relatedness	Relevance of task to the student	What you do should be relevant to you (HI); My relationship with my students is important to me (LI); I need support teaching students social behavior (MI)	"They don't realize that it's for them. (OC: claps for emphasis) And so half the time they'll do it and then they'll never use it again." (PL Interview, PL, Line 99)

Discussion

Summary of Findings

Overall, these findings emphasize how engagement is the foundation of learning from the perspectives of these two teachers and how they implement their educational knowledge in the classroom. This finding was both novel and unexpected. The focus of the research questions only vaguely began to touch on these ideas. In fact, the only connection between the research and covert questions and the primary theme of engagement was the subtheme of agentic engagement and the construct of agency from within the questions. Despite this tenuous level of anticipation, participants strongly emphasized the importance of engagement and its subthemes. Engagement was found to be vital to student success across contexts and was observed in both learning contexts. Other ideas not anticipated by the research and covert questions involved ideas related to the greater learning context. This theme involves a range of ideas relating to the sociocultural context in which students are involved while learning. Teachers and their behaviors when working with students indicated that beyond looking at student self-concepts—including self-regulation and self-direction—it is imperative for educators to consider the contexts in which students reside to properly support their learning.

Even when addressing self-concepts, self-determination was the least prominent theme; educators mainly addressed this idea as emerging within adolescents, but not a construct that was developed enough to be an area of primary concern for educators. Regulated learning was discussed similarly. However, rather than being addressed minimally, teachers spoke of regulation in terms of scaffolding student skills, both through teacher guidance and peer support, to develop self-regulation skills. Overall, these findings seem to align with prior literature. The IB curriculum and the club both promote adolescent student growth through self-determination

and co-regulation in academic and play contexts, as a time when this population normally struggles (Caprara et al., 2008; Garrison, 1997; Lau et al., 2018; Vygotsky, 1978). This is important as self-determination, self-regulated learning, and competency beliefs are key to the growth of learners of all ages (Garrison, 1997; Kim et al., 2021; Pintrich & DeGroot, 1990). Furthermore, self-direction and self-regulation 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 data and prior literature show that the International Baccalaureate Organization's courses foster self-regulation, competency beliefs, and self-determination (Lau et al., 2018).

Limitations

This study was not without limitations. A small audio recorder was used across all data collection contexts, and only one was used to maintain minimal intrusiveness on the part of the researcher. Unfortunately, as a result observational audio quality was poor. For the IB class, only a portion of PL's data and a small fraction of student dialogue was collected. For the club observation, nearly no data was collected. Because a significant amount of data was lost in the observations, the primary data coded for this data sources was field notes taken.

In addition, it is important to note that one of the interviewees was not observed, and in fact was an elementary school teacher. While this provided an interesting developmental perspective, this broadened the focus of the data collected and unfocused the research questions. Additionally, participants indicated that, regardless of whether they were in or out of focus, the research questions were not entirely reflective of reality in their classrooms. Overall, this reflects a need to revise the research questions and interview protocol before future research is pursued.

Future Research

Future research should more explicitly examine the connection between engagement, sociocultural factors, and self-concepts across development in learners. This should be explored in both formal and informal learning contexts to see if the same patterns emerge from the perspective of educators and through observations, or if different relationships between constructs are applicable. In addition, it would be important to explore student perceptions of these ideas across contexts to see if they align with those of teachers. Finally, once consistent patterns are established, it would be worthwhile to examine if an intervention would be able to use these patterns to foster academic outcomes in students.

Reflection

Everything that could have gone wrong for me did go wrong. I made mistakes during my first interaction with a gatekeeper and missed an opportunity for an observation and interview. Once I finally had my observations scheduled, I ran into health issues and had to reschedule. When I was down at my observations, two hours from home, my transmission died. When my car had been towed back up to my area and I was hanging on for my partner to come pick me up (with my friends/participants at my side, thankfully), he broke down exactly halfway between home and me. When I finally got my observation data, a large portion of it was inaudible. My interviews went long and I accidentally asked leading questions. I ran into further health and life issues, making the long process of analysis even longer.

But I *loved* every minute of it. I went into this program knowing I had a quantitative mind and at this point I am questioning that supposed fact. The sheer depth of information stories can provide us, the challenge of examining data in a way that honors your participants and tells their stories, the mere idea of "what is truth" all engages and excites me. This class and this project were exhausting and trying and frustrating at times, but I would trade it for nothing.

My biggest takeaways from this class are honestly great in number. I would advise both past me and future students to almost start this class on my own a couple weeks in advance, just add extra buffer room for when things inevitably go wrong. I also almost wish I had done that and added in the process of going through IRB review, simply because I learned just so much from my interviews; being able to go deeper into a literature review with those findings and work toward publication could have been meaningful work. Keeping a researcher notebook diligently from day one of the course would have been helpful; since I got derailed so many times during that process this semester, I shall settle for starting one for my dissertation and career now. Most of all, though, going forward I am going to embrace the joy of being bamboozled when my data does not match my expectations. There is just so much to learn and we as researchers know so little. Being given the chance to learn and co-construct knowledge with our participants—our co-researchers—is such an honor. That is a lesson this process has taught me that I will never let go of.

References

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Caprara, G. V., Fida, R., Vecchione, M., Del Bove, G., Vecchio, G. M., Barbaranelli, C., & Bandura, A. (2008). Longitudinal analysis of the role of perceived self-efficacy for self-regulated learning in academic continuance and achievement. *Journal of Educational Psychology*, *100*(3), 525–534. https://doi.org/10.1037/0022-0663.100.3.525

Carspecken, F. P. (2013a). Stage One: Building a Primary Record. In F. P. Carspecken, *Critical Ethnography in Educational Research* (1 ed., pp. 58–68). Routledge. https://doi.org/10.4324/9781315021263-10

Carspecken, F. P. (2013b). Stage Three: Dialogical Data Generation through Interviews, Group Discussions, and IPR. In F. P. Carspecken, *Critical Ethnography in Educational Research* (0 ed., pp. 168–178). Routledge. https://doi.org/10.4324/9781315021263-17

Chen, C.-H., Wang, K.-C., & Lin, Y.-H. (2022). *The Comparison of Solitary and Collaborative Modes of Game-based Learning on Students' Science Learning and Motivation*. 13.

Garrison, D. R. (1997). Self-Directed Learning: Toward a Comprehensive Model. *Adult Education Quarterly*, *48*(1), 18–33. https://doi.org/10.1177/074171369704800103

Goodall, A. M. (n.d.). *Tabletop Role-Playing Games and Their Potential to Promote Social Inclusion and*. 204.

Kim, D., Jung, E., Yoon, M., Chang, Y., Park, S., Kim, D., & Demir, F. (2021). Exploring the structural relationships between course design factors, learner commitment, self-directed learning, and intentions for further learning in a self-paced MOOC. *Computers & Education*, *166*, 104171. https://doi.org/10.1016/j.compedu.2021.104171

Ku, O., Chen, S. Y., Wu, D. H., Lao, A. C. C., & Chan, T.-W. (2022). *The Effects of Game-Based Learning on Mathematical Confidence and Performance: High Ability vs. Low Ability*. 15.

Lau, C., Kitsantas, A., Miller, A. D., & Drogin Rodgers, E. B. (2018). Perceived responsibility for learning, self-efficacy, and sources of self-efficacy in mathematics: A study of international baccalaureate primary years programme students. *Social Psychology of Education*, *21*(3), 603–620. https://doi.org/10.1007/s11218-018-9431-4

Nietfeld, J. L., Shores, L. R., & Hoffmann, K. F. (2014). Self-regulation and gender within a game-based learning environment. *Journal of Educational Psychology*, *106*(4), 961–973. https://doi.org/10.1037/a0037116

Pintrich, P. R., & Groot, E. V. D. (n.d.). *Motivational and Self-Regulated Learning Components of Classroom Academic Performance*. 8.

Ravitch, S. M., & Carl, N. M. (2021). *Qualitative research: Bridging the conceptual, theoretical, and methodological* (2nd ed.). Sage. http://lccn.loc.gov/2019028932

VERBI Software. (2021). MAXQDA 2022 [computer software]. Berlin, Germany: VERBI Software. Available from maxqda.com.

Vygotsky, L. S., & Cole, M. (1978). *Mind in Society: Development of Higher Psychological Processes*. Harvard University Press.

Wouters, P., van Nimwegen, C., van Oostendorp, H., & van der Spek, E. D. (2013). A meta-analysis of the cognitive and motivational effects of serious games. *Journal of Educational Psychology*, *105*(2), 249–265. https://doi.org/10.1037/a0031311

Zimmerman, B. J. (1990). Self-Regulated Learning and Academic Achievement: An Overview. *Educational Psychologist*, *25*(1), 3–17. https://doi.org/10.1207/s15326985ep2501_2

Appendix A—Semi-Structured Interview Protocol

Participant Descriptions

Participant 1

Roughly 30-year-old, white, male high school mathematics teacher. Five years of experience in classrooms in Spotsylvania County, VA, US. Teaches IB Calculus and Algebra II at a rural high school that has recently been involved in social justice issues spotlighted in the news. As a hobby, plays tabletop games, including table top roleplaying games, and for the past two to three years has worked to established such a club for students at his school.

Participant 2

Wife of the above teacher. Approximately 27-year-old, white, female, elementary school art teacher. Five years of experience in classrooms in Richmond, VA, US, and the surrounding areas. Teaches art classes for students in kindergarten to fifth grade at two rural Title I elementary schools in Louisa, VA, US, and is licensed to teach art, photography, digital media for elementary through high school students; well versed in learning throughout development. Collaborates with husband on resources for students participating in the tabletop roleplaying club at husband's high school.

Protocol Questions

Topic Domain

Comparing how self-direction is fostered in childhood and adolescent learners across core and elective classes.

Initial Questions

Tell me the story of the start of the Dungeons and Dragons club at your school.

Walk me through the process you went through to get the club approved by your administration.

Tell me about your favorite moment from your first club meeting with students.

Covert Exploration Categories

- What kinds of activities go on in each of the classes?
- How do kids get involved and engaged in the activities of the classes?
- Do the kids have agency around decisions made in each of the contexts? What does that look like?
- What does success look like for a kid who is struggling to engage or act with agency, and just wants to be told what to do?
- How is self-direction fostered for a kid who is struggling to engage?
- When learners are given that agency and self-direction during activities, how are they supported as they learn to regulate themselves?
- Are there kids in both the IB math class and the D&D club?
- Do those kids exhibit more self-direction and self-regulation than kids who are not?

Interview Follow-Up Questions

Direction 1: IB Classroom

- What does a typical day look like in your classroom?
    - Covert category 1
- Walk me through how you plan a lesson and activities for a class/your students.
    - Covert category 1, 2
- Tell me about a class session where you felt your students were really involved in the class and activities.
    - Covert category 2
- What about a class session where you struggled to engage your students?

    - Covert category 2, 4, 5
- Tell me about a time when you have observed a successful student work through a difficult situation or problem in your class.
    - Covert category 3, 6
    - Walk me through how your supported this student as they moved through this context.
- Walk me through a time when a less successful student struggled to work through a difficult situation or problem in your class.
    - Covert category 4, 5, 6
    - Tell me about how you supported this student as they moved through this context.
- Tell me about a time when you helped a student use their independent decision-making and autonomy in your class.
    - Covert category 3, 4, 6
    - If yes:
        - Tell me about the most memorable reaction a student had to you supporting their independence and autonomy.
    - If no:
        - Can you tell me about your most memorable experience observing another teacher you know who does a great job of supporting student independence and autonomy?

Direction 2: D&D club

- What does your average D&D club session look like?
    - Covert category 1
- Walk me through how you prepare to run a session for students during a club meeting.
    - Covert category 1, 2
- Tell me about the first time you had students run their own campaign independently of you.
    - Covert category 3
- Paint me a picture of a time a member of the D&D club struggled to get involved.
    - Covert category 2, 4, 5
    - Walk me through how you handled that situation.
- Tell me about a time when you have observed a successful player or group work through a difficult situation or problem during a club meeting.
    - Covert category 3, 6
    - Walk me through how your supported this player or group as they moved through this context.
- Walk me through a time when a less successful player or group struggled to work through a difficult situation or problem during a club meeting.
    - Covert category 4, 5, 6
- Walk me through how your supported this player or group as they moved through this context.
- Do you have students in both IB math and D&D club?
    - Covert category 7
    - If yes:
        - Could you tell me about the most memorable experience you have had with one of these students?
    - If no:
        - What kind of lessons would you like your D&D club members to take with them outside of the club and into the classroom, the rest of their lives, or both?