

## **Using the Hermeneutic Phenomenological Method to Explore the Middle School Student Lived Experience of Student Driven Inquiry**

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**Abstract:** This paper discusses a hermeneutic phenomenological exploration of the lived experience of middle school students (ages 13-14) engaged in student driven inquiry (SDI), an inquiry based learning (IBL) approach in which students engage in self-determined study, content creation, and findings presentation. Eight common themes of SDI experience emerged: Autonomy, Academic Challenges, Motivation & Engagement, Understanding Research as Fundamental, Satisfaction/Enjoyment, Stress, Support, and Expertise. Together these 8 themes reveal middle school student appreciation for the challenge of the SDI learning approach that embodies excitement, stress, learning, struggle, and ultimately feelings of achievement in what students consider worthy work that prepares them for future academic and life experiences. The narrative student perspective of SDI experience adds important new information to the existing literature on K-12 information literacy practices, information experience, inquiry-based learning models, and student motivation. Next steps for SDI framework development and continued related research are discussed.

**Keywords:** information experience, information literacy, inquiry-based learning, learning, phenomenology, school libraries, student-centered learning, student-driven inquiry

### **1. Introduction**

The purpose of this study was to illuminate the student lived experience of Student Driven Inquiry, an emerging Inquiry Based Learning (IBL) approach that foregrounds student autonomy in all aspects of the work. Students steer their own work and learning in SDI by: selecting the research topic, designing the research, reading widely, synthesizing information in writing, creating related artefacts, and sharing their work and new knowledge with peers and



community members. The hermeneutic phenomenological method was used to develop understanding of students' experience in this work, how they engage in the work, how students manage challenges and successes, and how students perceive and reflect upon the whole of the learning experience academically and personally. By conducting open-ended interviews with student participants, I was able to access specific details of student experience which led to the identification of common themes of SDI experience. The research reported here identifies for the first time 8 common themes of middle school student (ages 13-14) SDI experience by asking the research question: **What is the essence of middle school student lived experience in SDI?**

## **2. Literature Review**

Educators are turning away from instructivist teaching and rote learning practices to more effectively engage students in authentic and meaningful work. Relevant student-centered curriculum has been found to engender deeper learning experiences understood to develop knowledge and skills considered important for successful participation in today's communities and for personal satisfaction (Barron & Darling-Hammond, 2008; Cervantes, Hemmer, & Kouzekanani, 2015; Saunders-Stewart, Giles & Shore, 2012). To this end progressive schools commonly implement Inquiry Based Learning (IBL) models. Defined as student-centered and constructivist (Duffy & Raymer, 2010; Kuhlthau, 2010) IBL models are typically comprised of the following elements: (a) a driving question, (b) situated or authentic inquiry, (c) learner ownership of problem-solving, (d) teacher support, not teacher direction, (e) knowledge development presentation (Barron & Darling-Hammond, 2008; Duffy & Raymer, 2010; Grant, 2002; Krajcik & Blumenfeld, 2006; Saunders-Stewart, 2008).

By contrast, educators implementing Student Driven Inquiry (SDI), an emerging IBL approach, provide more student autonomy in all aspects of the work. SDI promotes ultimate student autonomy by sanctioning well-conceived student-determined and designed research projects. Students engaged in SDI: (a) define the research topic, (b) design and execute the study, (c) write an academic paper, (d) create a related artefact, (e) present their new knowledge and work to peers and other community members. Students steer their own work and learning in SDI. The highly autonomous SDI may be categorized as more student-directed than "free" or "open" inquiry described by Callison (2015) as "the highest level of independent investigation" (p. 28.). SDI weights and promotes student voice, choice, and agency fostering student motivation and engagement and developing interested, independent learners.

The research on IBL (Callison, 2015; Lupton, 2016), student motivation, Self-Determination Theory (SDT) in education (Deci & Ryan, 2008), and Information Literacy (IL) (Bruce, 2008, Elmborg, 2011) support the effectiveness of IBL models for engaging learners in meaningful and robust learning experiences. The critical components of interest, choice and autonomy foundational to SDT in education and student motivation are supported in IBL models and the SDI approach in particular. However, SDI had yet to be formally

investigated as a learning approach in its own right. The growing scholarly IL focus on the learner's use of information to learn through IBL suggests value in illuminating the student experience. In addition, the student perspective on the SDI experience may gainfully inform on qualities of the student-instructor relationship in this IBL approach.

### **3. Method**

The hermeneutic phenomenological method allowed me to glean stories of experience directly from students who had engaged in SDI. The phenomenological method attempts to get at the heart of human experience for this express purpose, to bring forth and disseminate the essential human experience in order to enhance lived experience for the common good. This qualitative research method is built on the belief that those things in the lifeworld are understood through human consciousness, that experience is captured through narrative reflection. Lifeworld is defined as the ever-shifting time and space in which we holistically live with each other, all life forms, and all things in the world. The challenge of the phenomenological method is to gather rich accounts of intentional experience from individuals who have directly experienced the phenomenon of interest and bring the "is", or the true meaning forth, to discover the essential elements of the experience. The hermeneutic variation of applied phenomenology embraces interpretation as a fundamental element of the process and product. This is accomplished by discerning the how and the why of an experience and unifying the two into a meaningful whole. Appropriate for use with middle school students, hermeneutical phenomenology aims to illuminate the essence of experience in a caring act in order to improve human experience and sensitive human interaction (van Manen, 1990, 2014).

#### **3.1 Study Design**

Following the hermeneutic phenomenological protocol as outlined by Max van Manen (1990, 2014) I gathered stories of SDI experience from 8 middle school students in individual open-ended interviews. This in-depth, interpretive and human-centric research method allowed for the discovery of 8 common themes of SDI experience among middle school student participants, shedding light on affective and perceived cognitive outcomes of student engagement in the SDI learning approach. To begin such work great care must be taken in developing a rich, relevant and worthy research question imbued with social meaning and significance (van Manen, 1990, 2014). The primary research question for this study evolved to be: *What is the lived experience of middle school students engaged in student-driven inquiry (SDI)?*

This research was comprised of four distinct parts: (1) the determination of a philosophical stance including clear recognition of biases and expectations through iterative reflection and writing (i.e. bracketing or reduction), (2) study participant recruitment, preparation, and in-depth open-ended interviews, (3) interview transcript analysis through the identification of meaning units, data analysis, multiple readings and re-envisioning of individual

experience (i.e. hermeneutic circling; thematic lifting or identification of salient ideas), (4) description (Giorgi, 2009; Moustakas, 1994) and interpretation of findings in phenomenological writing (Vagle, 2014; van Manen, 1990, 2014).

### **3.2 Preparing Participants**

Eight out of twenty students I solicited for the study completed a participation questionnaire stating their interest and ability in sharing detailed stories about their SDI engagement. I accepted all 8 and we met to further discuss the proposed research protocol and scheduling. (Note: One of the 8 participants moved before final data development and findings confirmation and so is not included in the study results.) In that meeting students asked questions and I responded by providing details about student privacy and emotional safety, my deep interest in sensitively supporting each student in sharing the complete stories of SDI experience, and the scheduling logistics regarding the in-school interviews. I assured students that their individual confirmation of all collected data and developed materials from that data was critical for the validity of the research outcomes. In this way students understood they would act as co-researchers in this participatory investigation. The names of all participants have been changed to protect their privacy.

### **3.3 Data Collection and Analysis**

I collected initial primary data in individual recorded open-ended interviews with research participants, supporting each participant in telling their complete story. During the interviews I took limited notes in order to fully attend to the student and their story. I took post-interview field notes, detailing mood, tone, body language, and any notable environmental factors. Participants reviewed interview transcriptions for veracity and completeness. I commenced data analysis by listening to each interview recording 2-3 times. Then I read and reread the interview transcripts. The idea was to immerse as fully as possible in the participant story of experience without outside interference, to walk into the participant narrative of “being in” SDI and take the whole individual experience intentionally withholding judgment by bracketing bias or preconceived notions before breaking each story down through examination of its parts.

I wrote individual stories of participant SDI experience, including all shared details related to the experience. Each drafted story was member-checked, or confirmed, by the participant student, effectively engaging each as co-researcher in this way. Each student combed through the draft story of their individual SDI experience and made revisions for accuracy and completeness until it felt entirely true.

Once students finalized their individual story I examined each one for notable meaning units (Seidman, 2013; Vagle, 2014) or themes (van Manen, 1990) depicting the student lived experience using descriptive labels. Through the data analysis I identified 16 common themes of middle school student SDI experience. With the 16 themes at hand, I revisited my field notes and journal entries, and wrote my way into a clearer illustration of the middle school student SDI experience, a method process called hermeneutic circling. This process

takes the researcher through examination of the whole (individual) story and its parts (meaning units or themes) to create a new whole (the essence) of experience bringing to the surface the essential elements of the phenomenon of interest (Kafle, 2013; Vagle, 2014).

After an iterative examination of the 16 common themes, I drafted a detailed and explicit definition for each theme. This allowed me to see more clearly that 8 stood out as dominant, with some encompassing the other comparatively subordinate themes. With final 8 determined themes of experience I returned once again to the data, the interview transcripts, meaning units, drafted stories for clarification and ultimately interpretation and meaning-making.

#### **4. Findings**

Eight common themes of experience emerged among the 7 independent stories: 1) autonomy, (2) motivation and engagement, (3) academic challenge, (4) understanding research paper writing as foundational, (5) stress, (6) available support, (7) expertise, (8) satisfaction/enjoyment.

##### **4.1 Autonomy**

The theme of autonomy appeared as student experience of control and ownership of the research study in which students exercised marked decision-making over most elements of the study design, artefact creation, and final work presentation. Evidence of feeling autonomy included students sharing felt moments of independent choice in their topic selection, research mode, writing and synthesis strategies, artefact design, and work sharing. Maria shares her success and appreciation in pursuing a self-selected research topic when she said:

I remember being at home building this, putting it all together and explaining my idea to them [her parents], and they asked, “Who gave you this idea?” I said, “I came up with it myself!” That was my first year [at School] and I don't have any siblings who had gone to this school. And, none of my other schools have ever done something to this extent, giving me this freedom. I wish that other schools did that because I think it makes you remember the learning more if you're learning something you want to learn about.

The emphatic delivery Maria uses to describe her research topic choice underscores the pleasure and pride she felt in her decision-making. She used the phrase “this freedom” to explain the value of the SDI experience several times in her interview and believes that such autonomy allows for deeper learning when it is “something you want to learn about.”

Other participants show autonomous feelings through the desire to cultivate their own unique research experience; the resistance to take direction from others; the interest in independently pursuing a long-time interest, passion

or curiosity; the need to independently problem-solve; the desire to express themselves through their own work; and the value and appreciation for determining the research and work production schedule to meet personal needs.

#### **4.2 Motivation and Engagement**

The theme of motivation and engagement emerged in participant stories as eagerness to engage in the SDI experience. Students exhibit agency for undertaking the work at hand; the self-determined research, study, writing and learning matters to them. Engagement signifies committed student focus in the work, steady attention towards completing the project. Michelle was motivated to engage in work that she would present to a larger audience. She explains,

I think it's just the whole vibe of it. Everybody wants their work to be really well done. Because you realize that you're not just turning this into your teacher, you're turning it in and presenting it to all the people. This motivates kids' special need to do better and make it perfect. With regular school work you turn in your teacher just sees it and they know your skills and they know it's hard for you. But with your IP work all your peers are going to see it; all your parents are going to see it. You bring friends and all the families and friends of all your peers. They're going to see it also. This really affected my thinking.

Michelle clearly articulates a keen awareness of the higher standard she must meet when presenting her work to the authentic audience that is the larger school community. This awareness and value positively influenced her to “do better and make it perfect.”

Other student participants exhibit SDI motivation and engagement in their enthusiasm for studying a topic of personal interest; for engaging in particular stages of the project work; for developing expertise; and for sharing their learning and showcasing their work.

#### **4.3 Academic Challenge**

The theme of academic challenge arose through student narratives showing that the SDI work called them to task both intellectually and practically speaking. IN their experience descriptions, students show how they stretched outside their comfort zone in a variety of ways. Katrina spoke about the SDI intellectual demands, how the work requires deeper engagement and is state that such challenge is more relevant than typical traditional school work. She expounded:

We all struggle with it to varying degrees. No one has an easy time. That's why I kind of find it so fun, because it's a different challenge from [regular] school. [Regular] school is a challenge such as, “Oh, can you remember this for the final test?” This [the IP] is a challenge such as, “How well can you do? How well can you connect all these different ideas?” Which is different from just, “Memorize this.

Memorize this.” It challenges you in a different way and is a more logical prep for life and learning like college and stuff.

While acknowledging the struggle implicit in the work, Katrina also asserts its value to her as a learner.

Other students reported on the struggle to master complex content across the curriculum, the challenge to develop more sophisticated academic writing skills, and the difficulty involved in managing a comprehensive project with multiple components.

#### **4.4 Understanding Research Paper Writing as Foundational**

Student participants each recognize that foundational to a successful SDI project outcome is quality research and writing. They see that substantive research synthesis in a well-crafted paper means the student can then move on to effectively engage in aligned mini-projects connected to the traditional school content areas. Nick demonstrated this understanding when he explained,

That research paper, if you go back and read it, and read it, and read it, that can really help you with your other projects. Because you might not have to do as much research, and usually you can find your science project from your research paper. For instance, I talked about the pyrotechnics in my research paper, so that led me to go think, “That’s a good idea for science,” and I annotated on the side of my paper. The research paper is a great thing to start with, because that can really channel into the other projects that you eventually do.

Nick returned to his research paper to discover ideas for related extension projects. This iterative experience with his own writing drove his innovative thinking and artefact creation.

Other students shared this particular notion, that the research allowed one to make interdisciplinary connections within the research topic. Additionally, students noted the positive result of knowledge development through the research writing experience, the development of writing endurance, and advancements in writing strategies and overall writing quality.

#### **4.5 Stress**

The experience of stress appears in the student description of tension, pressure, or worry. All students mentioned the experience or the management of stress while engaged in SDI. For Julia, her expressed stress centered on the anticipation of defending her work publicly in the culminating formal presentation:

The thought of this many people coming in—looking at your project and asking you questions that maybe you might not know the answer to—is really intimidating to think about. Having to say, “I’m sorry, I

don't know the answer to that," makes me feel like they're testing, as if they know more about my topic than I do.

Julia worried about her preparedness to adequately discuss her work, knowing there would be curious inquiring community members.

Other students shared experiencing stress in completing the writing requirement, managing multiple project components simultaneously, ensuring exceptional work products, adhering to their own project schedule, and contemplating the need for self-care.

#### **4.6 Available Support**

The theme of available support involves the interpersonal experiences students had while engaged in SDI. This support came mainly from teachers, though in some cases it also came from peers. Hannah referenced experiences with both peers and teachers in her discussion of perceived available support:

Sometimes, it would be peers who were around me. One girl in this school is a really good artist, so I would ask her for some tips. But if it was a teacher, or I didn't know what to add to my research paper, I'd go and ask them [the teacher] because they know more about that. . . . I think it was helpful having a one-on-one conversation without my document in front of me because I could just talk to them without feeling graded already throughout my document. I could just ask them for advice and it's really helpful.

Hannah accessed both peer and teacher support, and for different reasons it should be noted. She seems to see her peers as helpmates and her teachers as guides.

Other participants sought support when they struggled with the direction of their work. Some looked for confirmation that they were on the right track. There were students who reached out for support, and others who accepted it when offered. A couple simply referenced knowing the support was available if needed.

#### **4.7 Expertise**

The theme of expertise refers to the idea of deeper learning and its outcomes. Like the other common themes this one emerged uniquely for each student. Jake, the least chatty of the seven research participants, grew alert and drew up tall in his chair when I asked him about xenotransplantation. He leaned towards me and raised his voice to explain:

I've kind of wanted to be a surgeon, so I looked into medical fields last year. Xenotransplantation was a new thing that I hadn't heard of, so I looked into that for my IP project . . . I studied xenotransplantation, which is a new form of medical practice. It's a surgical practice . . . basically, it is growing organs inside pigs and other organisms by



injecting DNA from a human into the organ, so it can be later used for putting into a human. They take the organs out of the pig and then put it into the patient who needs an organ. . . . They inject the animal so that it grows as kind of a human/animal hybrid, and it grows with the organs of the human patient. The organs have cells of the human inside of it so that the human body is more likely to accept it. . . . Peter Medawar is the man that invented xenotransplantation.

The most enthusiasm Jake exhibited in our research interview was this moment when he introduced to me the concept of xenotransplantation, demonstrating his knowledge and understanding. Other participants also shared their content area expertise directly with me. Some talked about their growing learner skills and conceptual knowledge, showing metacognition in how to effectively study, learn and create new work.

#### **4.8 Satisfaction/Enjoyment**

The idea of satisfaction refers to a sense of contentment or fulfillment. Enjoyment is similar in its suggestion of pleasure and even fun in moments. The interview data showed crossover in these feelings in some cases. Julia here shares her sense of satisfaction revealed through tones of accomplishment and pride:

It was really cool. My dad said, "I have never even done anything this complicated in school before." My grandparents were both doctors and they said, "This is more complex and I don't understand this neurological thing." My grandma was a nurse and my grandpa was a doctor. They didn't know anything about the neurological system because they had nothing to do with brains when they were working . . . I thought it was really cool. I know a lot more about this than most everyone but doctors, and being able to share that and say, "I know a lot about this and I'm proud that I'm able to share it with you," is a really cool thing to be able to do, even if they might not know what it is.

There is a sense of pleasure and satisfaction in this relational outcome to Julia's work. Other students experienced joy in engaging in work related to a personal passion or curiosity or learning something new about the world and/or themselves. Some exhibited satisfaction in the accomplishment of a challenge they set themselves, a personal best of sorts.

#### **4.9 The Essence of Middle School SDI Experience**

The eight common themes found in participant perceptions, descriptions and reflections on SDI experience are: (a) autonomy, (b) academic challenge, (c) motivation and engagement, (d) research paper writing as foundational, (e) satisfaction/enjoyment, (f) support, (g) stress, and (h) expertise. The distillation of these themes is the essence of SDI experience:

Middle school students experience significant commitment to SDI work because it focuses on a topic of personal interest, and is determined, organized, and executed by the individual students themselves; they feel profound ownership and responsibility to formally present to their peers and elders worthy work that matters to them.

Because the phenomenological purpose is to gain an understanding of human experience through reductive processes alone it resists the creation of theories and frameworks.

## **5. Discussion**

Using the hermeneutic phenomenological method to collect true stories of lived experience from those who participated in the SDI phenomenon of interest served to reveal nuanced and intimate student descriptions and feelings. This data highlights personal SDI experience not available through other modes of data collection, such as quantitative measures that are typically less personal and more general, or the educator perspective that can only reflect second-hand presupposed elements of human experience. With the assurance of validity and trustworthiness in the identification of common themes (van Manen, 2014) of SDI lived experience this knowledge can be used to inform pedagogy and continued related research.

Autonomy, defined as feelings of ownership and control over research project and content creation decisions, emerged as a dominant theme, weaving in and around other common themes of SDI experience. Participants felt motivation, engagement, wonder, and pride in their learning and work because it was shared with a real audience (Deci & Ryan, 2008; Guay, Ratelle & Chanal, 2008; Núñez & León, 2015) in this authentic learning experience (Engel, 2011; Barron & Darling-Hammond, 2008). The stories students decided to share in their interviews to explain their experiences in SDI repeatedly returned to feelings of autonomy when discussing their engagements and motivation in doing the work. Feeling ownership of the overall project focus and related specifics of design and management held notable weight for students. Explaining the practical, personal, intellectual, and academic challenges in this work, students showed perseverance and determination to overcome such problems in order to produce and present quality work for the larger school community audience. Similarly, in telling their own SDI lived experience through the phenomenological method students autonomously directed their story as they reflected on it in the interview sessions with an interested researcher.

I encourage educators to leverage autonomy for student motivation and engagement when possible by providing students regular opportunities to make important choices and decisions in their academic pursuits. Such self-determined processes ensure higher student interest levels and engagement by inhering some measure of relevance in the work at hand. The research data also

underscores the high value students place on student-constructed authentic learning experiences for a real audience beyond the classroom teacher. It behooves educators to consider incorporating the SDI framework (paper forthcoming) into the regular school curriculum. By allowing students autonomy in the personal selection of research topic SDI brings heightened relevance and meaningfulness to the school work, creating a kind of third space where students' personal interests meet academic learning engagements and desired institutional outcomes.

The positive outcomes in this research underscore the value in developing a flexible SDI learning model which will merit further studies. Future research into student reflective practices may reveal discrete IL skills and knowledge development in SDI providing opportunity to more intentionally attend to those development areas. Teacher perception of student skills and knowledge learning including holistic growth within the four Cs (i.e. communication, collaboration, creativity and critical thinking), the Partnership for 21<sup>st</sup> Century Learners framework (Framework for 21<sup>st</sup> Century Learning – P21, n.d.) embraced by education, government and business leaders in the United States and abroad constitutes another rich area for future work. Finally, school librarians will be interested to examine connections between SDI learning and meeting the National School Library Standards for Learners, School Libraries, and School Librarians (2018).

The autonomy that participants experienced in SDI also appeared to precipitate stress. Inconclusive data suggests that the stress experience may be connected to the student ownership of the research work and final presentation responsibility to the larger audience relative to other more teacher-determined assignments. The autonomy supportive practices embedded in SDI may have generated self-regulation in task engagement, knowledge development (Chu, 2009; Mega, Ronconi & De Beni, 2013) and also the experience of stress intermittently throughout the SDI experience through to the final project presentation. Participant stress experience may or may not mirror Kuhlthau's ISP uncertainty principle (1993) which asserts that uncertainty can occur throughout the research process. It's possible students experienced eustress (Robert, 2002) that provided the perseverance and determination to complete the work. The connection between the feeling of autonomy and stress in SDI can illuminate optimal levels of stress and effective supports for the student learning experience. What is the optimal level of educator and peer support in SDI? Answers to these pertinent questions will serve to optimize the SDI learning experience.

## **6. Conclusion**

The notable middle school student commitment to long-term project work in SDI demonstrates that students are highly invested in SDI, care about their learning, and can be entrusted to map their own independent learning. The student perspective of the lived experience of SDI leveraged through the hermeneutic phenomenological method adds an important new voice to the growing conversations on student information literacy, information practice,

information experiences, and inquiry learning models. Illuminating the student-perceived cognitive and affective outcomes of SDI experience informs scholarly research on the application of the hermeneutic phenomenological method with youth, students as co-researchers, students as active agents of their own learning, student motivation, student information literacy development, effective instructional practices for deeper learning, and holistic school experience. The forthcoming SDI framework will provide classroom teachers and school librarians a useful guide for facilitating the SDI experience. Further research will enhance understandings about how students engage and learn in this academic experience and thus enable the optimization of the learning model implementation.

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