Actions of Their Own to Learn
Studies in Knowing, Acting, and Being
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What does it mean to take actions of one’s own to learn? How do human beings create meaning for themselves and with others? How can learners’ active efforts to build knowledge be encouraged and supported?

In this edited compilation, scholars from a diverse range of academic and professional backgrounds address these questions, grounded in the conviction that the ability to take effective action of one’s own to learn is itself an essential form of knowledge.

In an era of dramatic social, environmental and political change, the need to access vast amounts of information to make decisions demands that learners become active agents in their own knowledge development. Educators are transforming ideas about their role(s) as they strive to provide guidance to help learners take the lead in their own learning. Learners are building new ideas about their capacities to gather and organize information while working with others. No longer simply consumers of information, they are beginning to see themselves as capable and effective researchers. Researchers are also expanding ideas about their knowledge-gathering work and identities. No longer simply reporters of information, researchers are seeing themselves as learners, as they engage in deeper, more collaborative ways with participants in their research.

Chapter authors describe their dedicated, and often career long journeys to show the vital connections between knowledge, acting to learn, identity and being. To engage in this work means disrupting traditional ideas about how knowledge is most effectively acquired. This book will inspire researchers, educators and educational planners as they build the kinds of new participative structures needed to support individual and collective actions to learn.
Actions of Their Own to Learn
This book series is dedicated to the radical love and actions of Paulo Freire, Jesus “Pato” Gomez, and Joe L. Kincheloe.
TRANSGRESSIONS: CULTURAL STUDIES AND EDUCATION

Cultural studies provides an analytical toolbox for both making sense of educational practice and extending the insights of educational professionals into their labors. In this context *Transgressions: Cultural Studies and Education* provides a collection of books in the domain that specify this assertion. Crafted for an audience of teachers, teacher educators, scholars and students of cultural studies and others interested in cultural studies and pedagogy, the series documents both the possibilities of and the controversies surrounding the intersection of cultural studies and education. The editors and the authors of this series do not assume that the interaction of cultural studies and education devalues other types of knowledge and analytical forms. Rather the intersection of these knowledge disciplines offers a rejuvenating, optimistic, and positive perspective on education and educational institutions. Some might describe its contribution as democratic, emancipatory, and transformative. The editors and authors maintain that cultural studies helps free educators from sterile, monolithic analyses that have for too long undermined efforts to think of educational practices by providing other words, new languages, and fresh metaphors. Operating in an interdisciplinary cosmos, *Transgressions: Cultural Studies and Education* is dedicated to exploring the ways cultural studies enhances the study and practice of education. With this in mind the series focuses in a non-exclusive way on popular culture as well as other dimensions of cultural studies including social theory, social justice and positionality, cultural dimensions of technological innovation, new media and media literacy, new forms of oppression emerging in an electronic hyperreality, and postcolonial global concerns. With these concerns in mind cultural studies scholars often argue that the realm of popular culture is the most powerful educational force in contemporary culture. Indeed, in the twenty-first century this pedagogical dynamic is sweeping through the entire world. Educators, they believe, must understand these emerging realities in order to gain an important voice in the pedagogical conversation.

Without an understanding of cultural pedagogy’s (education that takes place outside of formal schooling) role in the shaping of individual identity – youth identity in particular – the role educators play in the lives of their students will continue to fade. Why do so many of our students feel that life is incomprehensible and devoid of meaning? What does it mean, teachers wonder, when young people are unable to describe their moods, their affective affiliation to the society around them. Meanings provided young people by mainstream institutions often do little to help them deal with their affective complexity, their difficulty negotiating the rift between meaning and affect. School knowledge and educational expectations seem as anachronistic as a ditto machine, not that learning ways of rational thought and making sense of the world are unimportant.

But school knowledge and educational expectations often have little to offer students about making sense of the way they feel, the way their affective lives are shaped. In no way do we argue that analysis of the production of youth in an electronic mediated world demands some “touchy-feely” educational superficiality. What is needed in this context is a rigorous analysis of the interrelationship between pedagogy, popular culture, meaning making, and youth subjectivity. In an era marked by youth depression, violence, and suicide such insights become extremely important, even life saving. Pessimism about the future is the common sense of many contemporary youth with its concomitant feeling that no one can make a difference.
If affective production can be shaped to reflect these perspectives, then it can be reshaped to lay the groundwork for optimism, passionate commitment, and transformative educational and political activity. In these ways cultural studies adds a dimension to the work of education unfilled by any other sub-discipline. This is what *Transgressions: Cultural Studies and Education* seeks to produce – literature on these issues that makes a difference. It seeks to publish studies that help those who work with young people, those individuals involved in the disciplines that study children and youth, and young people themselves improve their lives in these bizarre times.
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# TABLE OF CONTENTS

**Part I: Agency, Personal Meaning, Action, and Activism in Research and Learning**

1. Action to Learn as a Form of Knowledge  
   *Bonnie Shapiro*  
   3

2. Activism, Action and Becoming: Taking Action to Learn What It Means to Embrace an Activist/Agentic Research Identity  
   *Paul Hart and Catherine Hart*  
   17

   *Peta White*  
   41

4. Transforming Park Education as a Transformed Park Educator  
   *Don Carruthers Den Hoed*  
   59

**Part II: Actions of Their Own to Learn in Knowledge Building Communities**

5. Taking Actions to Learn as Part of a Classroom Collective  
   *Jo Towers and Lyndon C. Martin*  
   87

6. Taking Action to Learn by Asking One’s Own Questions in a Physics Course for Prospective Teachers  
   *Emily Hanke van Zee*  
   105

7. Primary School Students’ Constructions of Help-Seeking: A Resource for the Design of Learning Environments  
   *Bonnie Shapiro*  
   123

8. The School That Listens: Freedom to Learn without Labels  
   *Alison Peacock*  
   143

9. Understanding and Supporting Professionals’ Own Efforts to Learn in Online Health Disciplines Courses  
   *Sherri Melrose*  
   159
# TABLE OF CONTENTS

## Part III: Participative Research, Teaching, and Learning: Disrupting Social and Political Discourses

10. Student-Led Learning for ‘Altruistic’ Socio-Political Actions  
   *J. Lawrence Bencze*  
   177

11. Learning to Engage in Social Action Using Photovoice: A Participatory Action Engagement to Transform Learning  
   *Kathleen C. Sitter*  
   199

12. Adapting Photovoice in the Classroom: Guiding Students in the Creation of a Photovoice Project  
   *Kathleen C. Sitter*  
   215

13. A New Paradigm for Teaching, Leading and Learning in Participatory Learning Environments  
   *Eugene G. Kowch*  
   225

14. Designing Support for Active Participation in Learning and Research  
   *Bonnie Shapiro*  
   253

About the Contributors  
271
PART I

AGENCY, PERSONAL MEANING, ACTION, AND
ACTIVISM IN RESEARCH AND LEARNING
1. ACTION TO LEARN AS A FORM OF KNOWLEDGE

How do human beings create meaning for themselves?

What does it mean to take actions of one’s own to learn? In this volume we present research and writing from a diverse range of professional research contexts that uncover some of the ways human beings take actions of their own to create meaning. We present research and descriptions of practice that contribute fresh, new understandings of the complex, dynamic processes involved when human beings take action to build new knowledge. Taking action to learn refers to the activities learners engage in within formal and informal learning settings. It also refers to the actions researchers take during the process of building new knowledge as they pose questions about the world and design new ways to collect and analyse information to answer those questions.

Traditionally, the process of building new knowledge has been viewed as a solely cognitive, intellectual engagement occurring only in the mind. Our work asserts that a conception of what it means to learn must be framed as part of a larger process of building understanding that involves more than the mind. To learn in this way is to engage in a quest to understand that is much like engaging in research. Understanding the ways learners and researchers engage in building knowledge is freshly conceptualized in this volume to include aspects of the whole human being that have been excluded. We offer new conceptions of knowledge-building that include understandings of the ways learners and researchers experience and make sense of the world through capacities that include their own deep interests and concerns, actions, thoughts, and feelings that involve the body as well as the mind.

Social cognitive theorist Albert Bandura (2001) writes that the essence of humanness is the capacity to exercise control over the nature and quality of one’s life:

Among the mechanisms of personal agency, none are more central or pervasive than people’s beliefs in their capability to exercise some measure of control over their functioning and over environmental events. (Bandura, 2001, p. 10)

Human beings are agents of the experiences in their lives, acting in dynamic ways as they engage with environment. This is the foundational perspective underlying new conceptions of cognition that assert that knowing and learning are inseparable from the actions taken by the individual to learn (Masciotra, Roth, & Morel, 2007; Thompson, 2007; Varela, Thompson, & Rosch, 1991). To understand the experience
of knowing, doing and being as inseparable is to recognize that the knower’s actions and the knower’s environment exist in a dynamic and synergetic relationship.

The dramatic pace of changing social, environmental and political realities demands a continual rethinking of what we must know in order to live meaningfully and well, prompting new debates about how learning, teaching and research should be (re)conceptualized. One argument contends that attention should focus on defining which content knowledge is of greatest importance. While establishing what to learn is important, in this volume we give high status to the importance of new studies and thinking that help understand the ways human beings learn how to build new knowledge.

As agents of action, learners can also become self-aware examiners of their own functioning, able to play a part in their own self-development, adaptation, and self-renewal (Bandura, 2001). Experiences that offer opportunities to actively participate in learning help build participants’ positive self image as a successful agent of action in learning. Knowledge, actions to learn, sense of identity and research/learning environments are therefore dynamically interwoven. When learners have the opportunity to understand and reflect on their own natural approaches to learning, they are better able to consider trying new approaches and actions that lead to greater success. The quest to seek new knowledge finds participants often working simultaneously as researchers, teachers and learners. The actions, thoughts and feelings involved in efforts to seek new understandings can be seen as resources that may support or interfere with the process of knowledge-building.

In this volume we present stories of our professional work and our mutual pursuits to gain understanding of features of our own and others’ actions to learn. Taking action to learn is conceptualized broadly here as constituting the thoughts, feelings and activities involved during participation in knowledge-building processes. This volume is organized around three contexts: (1) Researchers and learners seeking agency and personal meaning, (2) Research on learners’ active engagements in learning with others, and (3) The creation and design of environments that support taking action to learn.

Our chapters are guided by a range of theoretical frameworks that seek to understand learning as knowing, acting and being. A constructivist world-view is at the foundation of many chapter discussions. It sees the development of new understanding as a process of engagement with new ideas mediated through prior ideas and experiences, resulting in the construction of new mental representations. Emerging enactivist world-view perspectives add additional dimensions that give high status to the kinds of actions human beings take as they build new understandings. It is through both types of these types of engagements – intellectual and action/doing, that individuals also develop views about their capabilities and strengths as learning beings. In this book, we recognize the emergence of new understandings and the development of learner identity by recognizing the ways knowing, acting, and being are interwoven in the process of learning. We conceptualize learner engagement in Actions of Their Own to Learn, as itself, a vital form of knowledge. In order to develop and support this knowledge, it must be more fully understood.
ACTION TO LEARN AS A FORM OF KNOWLEDGE

STUDYING ACTIONS TO LEARN AS A FORM OF KNOWLEDGE: WHAT CHILDREN BRING TO LIGHT

As editor, my conceptualization of this volume emerges from longstanding interests in personal meaning and agency in learning (Shapiro, 1994, 2011, 2014a, 2014b, 2015, 2016). A number of years ago, I developed a study to understand the ways children engage in knowledge-building as they learn concepts in science (Shapiro, 1994, 2011). The ways students make their own efforts to learn had long been an area of interest in my work as a classroom teacher and science teacher educator. I ‘embedded’ in a grade five classroom over a three-month period. Fully welcomed by students and staff, I sat every day with a delightful group of 11–12 year old children to understand how they took actions of their own to learn while engaged in studies of the science topic light. A primary focus in research on children’s learning in science at the time was devoted to building representations of children’s ideas about science concepts typically taught in the school program. Piaget’s work to understand children’s ideas about a range of topics was highly regarded at that time (Piaget, 1971). His research engaged children in clinical interviews, usually conducted outside of the classroom settings, in an effort to represent learner ideas about phenomena. This highly influential work inspired the beginning of a huge volume of research studies, conference presentations and international seminars and curriculum development (Novak, 1987; Pfundt & Duit, 1991). Piaget’s foundational work identified students’ most commonly held ideas about a range of natural phenomena and began to describe patterns in some of the ways learner conceptions deviated from accepted understandings. In science learning, the primary goal of much of the work that followed was to move students from the “wrong” ideas they held about a topic, referred to as misconceptions, to scientifically correct ideas. As I explored this fascinating line of inquiry, I began to question some of its assumptions. In some studies, descriptions of learner ideas seemed to miss some of the very thoughtful ways children were thinking as they expressed their ideas. Some conference presentations on learner conceptions seemed to trivialize, even at times ridicule, children’s ideas. While assisting students to move towards the most scientifically correct ideas seemed a worthy goal, I felt that something was missing in the research literature. Learners’ thinking processes and the ways they were connected to active efforts to learn were not being given valued consideration. In an effort to move away from a sole focus on mental constructions of knowledge, I created a study to document the actions learners were taking to learn as well as their thoughts and feelings as they engaged in knowledge-building. The primary goal was to contribute deeper understanding of the wholeness of learners’ experiences as they built new knowledge in the classroom setting. The intentions were to give high importance to the variety of ways learners moved through their learning world, to document their feelings about learning science and how their learning experiences affected development of a sense of identity as learners of science. The project challenged a sole focus on identifying learners’ incorrect ideas in science by presenting case
report descriptions of the interplay between cognition, action and the environment as learners contributed to their own knowledge development in real learning settings.

The ideas about knowledge-building are rooted in the ways we conceptualize the nature of mind in the complex and dynamic processes involved in coming to know. A constructivist worldview presents learning as a process in which human beings are actively involved in the mental constructions of ideas using prior knowledge and experiences as a foundation. One of the first constructivist theoreticians, psychologist George Kelly, explained that we use personal constructs to organize and engage with new ideas (Kelly, 1969). A personal construct is essentially a linguistic structure used as a template to “straddle the unfamiliar with the familiar.” Kelly’s work has been effectively used to help individuals learn to change their thinking in a variety of psychological and educational contexts. He suggested the metaphor, “the person as a form of motion,” to emphasize the dynamic changing nature of knowledge-building. Changing ideas and actions are accomplished by helping the individual recognize the ways they use their own constructs to build understanding and as a vehicle to help them consider new constructs and ways of behaving. In educational settings, this suggests the value of building language-rich environments to assist learners in the process of modifying their understandings. In this active process, new knowledge emerges as do new understandings of self, sense of identity and being. The primary assumption of a constructivist perspective is that individuals build their own meanings for events and experiences. Its dominant focus in the literature has been to describe the ways learners use prior ideas to build new mental constructions (Shapiro, 1994, 2011). In this study I attempted to add new dimensions to explain the ways children learn concepts in science by showing the ways children’s active efforts to engage in their learning world contribute to learning new concepts in science, and their own understandings of themselves as learners.

Six children were involved in the foundational study, three girls and three boys. Two were identified by their teacher as high achievers and showed a very high level of emotional adjustment within and outside the setting. Two were achieving at an average level and with a normal level of emotional adjustment. Two were struggling with their schoolwork and with personal and social emotional issues both inside and outside the classroom. Video and observational records documented daily actions and conversations in the classroom as they moved through their individual and group learning. I spoke with students regularly to learn how they experienced and described new developing understandings as well as actions and feelings in the learning settings that had been constructed for them. Instructors guide students using instructional goals and objectives. At the same time, I discovered the many ways each individual takes actions based on their own personal interests and purposes.

The remarkable insight that emerged through study with individual students was that each child demonstrated their own unique approach to being in, and learning about, their world. I found that each child in the study displayed a unique ‘personal orientation to learning’ that had pattern and coherence and revealed an approach to meaning-making that was stable over the considerable length of time
I spent in the classroom. The research revealed how children engaged in natural and spontaneous actions as they moved through their learning world. Each person showed a unique way of taking action to learn. Each student’s actions also had an observable impact on fellow students’ learning activities and on the classroom teacher’s actions as well. The students’ actions revealed a blend of their own meaning-making goals and the instructional goals of their teacher. The discovery of these patterns showed the ways learners engaged in actions of their own as a resource for understanding their world. I began to conceptualize these actions as a form of knowledge children were using as a resource for learning. Each person employed their own actions as a resource that was used to ‘live their questions’ about the world. Each person’s actions influenced their developing sense of identity as a science learner. The case reports show the ways that each child’s unique approach to learning affected their ultimate acquisition of scientific content knowledge (Shapiro, 1994, 2011). While each story provided vital insights, the story of the efforts of one of the more mystifying children in the study, Melody, is presented here as an example of how one research participant uniquely transformed my thinking as a researcher.

Like all of the children in the study, Melody’s actions of her own to learn in the world of the classroom were a unique mix of the goals of her teacher, the curriculum, and her own goals and interests in the classroom. Interviews with Melody showed that she was aware of some of her own meaning-making approaches in action. She was aware of some of the challenges for her in school, telling me “I have some difficulty sometimes in school. I’m in the lower reading group, and in math, and a lot of the time, I don’t know or understand what I am supposed to do. Mr. Ryan doesn’t help me sometimes.” Melody did not appear to be aware of aspects of the pattern of her actions to learn in the classroom that led her teacher to constantly redirect and reprimand her. She frequently mentioned to me that she almost never understood the purpose of a lesson task or what it was that she was supposed to be doing. Although she felt it was her teacher’s responsibility to make sure she understood what to do, never once did I observe her asking him for help in order to clarify the instructions or how to work with the materials. Her natural pattern was to engage with members of her study group to learn what to do and often to learn what the correct answers were. She quickly identified the students in the larger classroom who were most likely to have correct responses and took action to learn what they were thinking and doing. Her profound interest in the social lives of others, and in conversing with them about what they were thinking meant that she was frequently absent from her study group. Often I would find her out of her seat looking at what other groups in the class were doing and talking about. Melody possessed an amazing ability to state the ideas that were emerging in several of the study groups in the classroom. The highly developed social skills that got her into trouble daily, served as a powerful resource for learning in the classroom world. She attained a considerable grasp of some of the most difficult science content at the end of the unit evidenced by work on the summative evaluation materials and in
personal interviews with her. At the same time, these powerfully effective actions that helped her learn were causing her to be regularly reprimanded by the teacher for “not doing what she was supposed to be doing.” Melody’s behaviour was often also highly annoying to fellow students during the lessons. Instead of clarifying and attending to the tasks set by the teacher, Melody would regularly play with the science equipment, using it to explore or test out ideas completely unrelated to the lesson. When doing so, she would often successfully draw all of the children in her study group away from accomplishing the tasks on the worksheet, engaging them with her own personal line of inquiry. She regularly spoke to me about her love of science because of all the beautiful things “you get to look at.” In small group work she often drew the attention of fellow students to the aesthetic features of materials. In the example below, the children are working on an activity with a light source called “Bend that Beam”:

[Melody reaches over to move the light source around]

Martin: Get outa here Melody!
Melody: I was trying to fix it, Martin. Let me use your magnifier.
Martin: No. Get outa here. We’re trying to do the activity.
Melody: I just want to use if for a minute. You’re supposed to share.

[Melody moves the beaker around to create a new effect]

Martin: Hey don’t! Hey, that’s not what we’re supposed to do, Melody. Get outa here!
Melody: I was just fixing it. Oh, oh, look Yasmin, look inside the light source. OOOoooh! Neat! Wow, look!
Yasmin: Neat eh? [All of the group members now gather around the light source]
Melody: It looks like a pretty little house in there. And it looks just like grass down there.
Yasmin: Hey, look. It looks like you can see a little school in there.
Steven: It looks like peat moss.
Martin: Oh, it’s weird. It’s all sorts of little silver things. [Martin reaches down into the light source] Oh, ouch! Hey! There, boy, is that hot! Man, I burned my finger.
Yasmin: Yeah. My hand is way out here and it’s hot.

[Martin returns to the worksheet]

Martin: Okay. Steven. Let’s draw this. There. I drew mine. [Martin manipulates the light source] Hey! Look what it does when you move the light beams!

[Despite the movement of the group back to the task at hand, Melody continues to look down into the light source. Martin covers part of the top to alter the
angle of the beams pasting through the beaker, one of the required lesson tasks, then moves the light box away from her]

Melody: Don’t! Oooooh. It looks like a bug.
Yasmin: Particular dummo. You’re supposed to see where it crosses and put it on the sheet.

(Shapiro, 1994, p. 118)

Melody was drawn to the aesthetic features of the materials, such as “the pretty way the light box looks when staring straight down at it.” Though this interest moved her away from the goals of the science lesson, another aspect of the way she took action to pursue her interests had a more positive impact on her learning. Because of her deep interest in the social life of school and social interactions, Melody showed remarkable awareness of scientific meanings that were emerging in small groups in the classroom. What she did not seem to be aware of was the way that her unique, personal approaches ran counter to the expectations for performance in her classroom.

I presented case reports documenting the activities of each child in the study group to deepen understanding of learners’ ways of being engaged in their learning. Lave (1988) referred to such descriptions as “displays or performances of knowing in action.” My purpose was to build understanding of the impact of actions to learn on knowing and sense of identity as learners. I learned from all of the children, and uniquely from Melody, that it was because of, not despite her habit of distractedly playing with the equipment, looking for the beauty in her world and socializing, that she was grasping ideas. Melody’s own unique approach to take actions to learn allowed her to put some of the main ideas of the lesson together without ever reading the directions on class worksheets or trying to figure out on her own what needed to be done. She grasped many science ideas in this way. Unfortunately, because of her ongoing awareness that she usually did not know what to do in her lessons, she developed an extremely poor sense of herself as a successful learner of science.

There is a tendency in school settings to reinforce particular learning orientations or ways of taking action to learn, over others. Students who work quietly and sequentially are typically rewarded with good grades and accolades from their teachers, parents and guardians. They require less time and challenge for a teacher who must deal with a large number of students. It is sometimes challenging to work with a child who makes large, and sometimes loud leaps of insight. Melody was confounding to her teacher whose primarily interaction with her was to redirect her to “stop what she was doing and do what she was supposed to be doing.” Because of this, he did not have an opportunity to observe the profound impact she was having on fellow students and ultimately, the ways that she was grasping concepts that many others did not.
As Maturana and Varela (1987) so powerfully first elucidated, human beings learn by moving through the world they inhabit. They are transformed by experiences as they take actions of their own to learn in the world. At the same time, learners transform the world as they take action in it, as noted in the emerging enactivist perspectives literature (Masciotra, Roth, & Morel, 2007). To understand how to best guide and support learning about how to learn we must first value the ways human beings naturally and spontaneously take actions of their own to learn as they build knowledge. The action each individual takes is unique, revealing a pattern of behaviour that has structure and coherence (Shapiro, 1994, 2011). The pattern of natural, spontaneous actions may not necessarily be apparent to the person who is acting. The pattern of actions represents a repertoire of skills used as resources to learn about and move through the world. This personal repertoire of skills is used in the complex process of building knowledge in formal, organized learning settings where traditionally, knowledge outcomes are pre-determined. This repertoire of skills is also used in other kinds of knowledge-building settings where individuals make spontaneous choices as they learn, often based on unexpected challenges and issues that emerge as part of the process of solving a problem. Depending on the ways that individuals take actions of their own to learn, they may find the learning experience and the design of the learning setting highly compatible with their own personal approach to learning. In this case, they often experience a strong affirmation and sense of identity as a successful knowledge builder. If their personal actions and approaches to learning are not accepted or supported within the learning environment, as was the case for Melody, the learner may experience frustration and may cause instructor frustration. Melody clearly developed a poor sense of identity as a learner. She consistently saw herself as failing as a knowledge builder. Melody was not aware of her own pattern of behaviour when learning or the importance of taking responsibility for her own actions to learn. I followed the children for many years into junior high school, high school and college or university, and into their adult lives. For most of the participants in the study group, the patterns appearing in the early grades persisted, and this was true for Melody. With others, due to institutional interventions, or life circumstances, these patterns changed (Shapiro, 1994).

As mentioned, my thinking as a researcher about the ways children were learning was deeply influenced by the patterns I identified in the ways the children took actions to learn. The reflexive nature of this type of long-term research also demonstrated the importance of considering the influence of the researcher on the participants. The children discovered that I had been a classroom teacher for a number of years before I began research work in their classroom. One day they asked if I would sometime teach them while visiting in the classroom. I resisted at first, as this was not part of the research agreement arranged with their teacher. I was also concerned that doing so could potentially influence or interfere with my work as researcher. When an actual movement developed to recruit me, cheerfully supported by their teacher, I finally accepted the invitation, realizing that it was an excellent opportunity to gain deeper insight into their ways of learning and knowing from a teaching perspective.
I created a lesson to help students learn to use a heuristic tool, a concept map, to organize some of the ideas about light that they were learning. I began the discussion by saying, ‘As you all know, I am not only a researcher in your classroom looking at the ways you are learning ideas here, but I am also a teacher. As a teacher, it is my responsibility to teach in the best way I can, and you know that when you are a student, it is your responsibility to make every effort to learn well. I’m going to share with you today something that you can do to be a better student, that is, to better take up your responsibility to be a better learner.’

I was astounded by the initial response of the students. There was such excitement in the room about this new idea that they might actually be able to learn to take actions that would enhance their own personal learning efforts!! I will never forget the looks of excited interest on their bright, shining faces. Clearly, the idea that there might be actions they could take to become even better learners was entirely new to them. I believe that the reason the children listened and responded with such enthusiasm was in large part due to their recognition of the ways I had been so carefully and respectfully listening to them in the effort to uncover the nature of their efforts to learn. I continued to have contact with the children throughout their junior high and high school years as I now that they are adults, I continue to learn about their ideas about the meaning of science learning in their lives.

THE CHAPTERS IN OUR VOLUME: STUDYING ACTIONS OF THEIR OWN TO LEARN AS A FORM OF KNOWLEDGE

As I pursued this work further, I learned about the journeys and diverse efforts of outstanding colleagues who are also engaged in work to understand how learners and researchers work as agents of action in their own efforts to learn. I invited them to contribute to this volume by addressing the overarching question, “What does it mean to take actions of one’s own to learn?” Each chapter presents an interpretation of this question through research and reflection as the authors describe their own unique research and teaching/practice contexts. The chapters are organized into three sections.

Section One: Agency, Personal Meaning, Action and Activism in Research Lays the Groundwork for Understanding Agency in Meaning-Making

Following this introductory chapter, Paul Hart and Catherine Hart present an exploration of the meaning of activism-action-and-becoming in environmental education research. Their discussion challenges researchers to take action to become critically engaged in (re)conceptualizing the meaning of research work in environmental education. The authors argue that researchers, as knowledge builders, must take action to understand the emerging values of the communities they study. Hart and Hart discuss what it means for researchers to be affected by and engage with the values of the communities they research. They recommend resources to
help researchers consider the ways they may embrace activist, agentic identities in their work.

Australian environmental educator Peta White was amazed to find that a carbon footprint calculator revealed her own footprint to be far larger than she, an environmental educator, would ever have predicted. She describes the design of an autoethnographic study that allowed her to take actions of her own to learn how she might change some living habits in order to reduce her carbon footprint. The experience with her methodological approach and the new knowledge understandings she gained are presented as the foundation for the creation of curriculum resources to help her own teacher preparation students learn to take their own actions to reduce their carbon footprints. Don Carruthers den Hoed describes his use of a transformational theory of knowledge-building as a resource for rethinking his work as a Provincial Parks educator. Don reflects on the circumstances that inspired changes in his role as designer of educational experiences in provincial parks. His thoughtful model provides a framework for thinking about learning in informal settings, and in application to the development of resources to guide visitors to become active rather than passive participants in parks learning experiences.

Section Two: Actions of Their Own to Learn in Knowledge-Building Communities

Chapters in this section provide new insight into the ways that taking actions to learn are achieved by individual learners are also dependent on the emergence of meanings that are developed in community with others.

Mathematics educators Jo Towers and Lyndon Martin employ an enactivist perspective to examine the ways learners take action as members of a mathematics learning community. They describe a setting wonderfully orchestrated by a skilled classroom teacher who creates structures that engage students in improvisational and collective actions to learn as they solve complex problems in mathematics. They show how students learn individually and also take action with others to build communal knowledge about the social world.

Physics teacher educator Emily Hanke van Zee describes work with prospective teachers in her inquiry-based physics course where she helps students develop the skills needed to ask their own questions about science phenomena studied in class. Student teachers make their own decisions about what to study, and how to pursue studies of physics phenomena. They share the results of their work with their classroom community of student teacher colleagues. They create resources to be used in formal school based learning settings. The also invite family members and friends to participate as learners with the curriculum experiences as well.

Science teacher educator, and editor of this volume, Bonnie Shapiro, employs constructivist and enactivist perspectives, to document elementary school students’ efforts to seek help when needed while engaged in learning with others in science study groups. The help-seeking approaches they use are seen as displays of the skill repertoires learners draw on that reveal their ideas about how to act, and who to
engage with when they do not understand what to do next in learning. This research suggests ways classroom settings can be organized in ways that provide better support for learners’ own efforts to seek help in learning.

Education administrator Dame Alison Peacock shows how listening in authentic ways to children’s ideas and concerns about their learning informs her award-winning work to create a culture of success in a school where both students and teachers once struggled (Peacock, 2010). Dame Peacock shares how she learned along with staff and students that a focus on building trust became the essential foundation that helped both teachers and students develop the confidence needed to see themselves as collaborators, rather than competitors in learning and teaching. This insight, created a new “culture of self-regulation” in the school, where all participants recognized themselves as leaders in their own personal quests to learn and as leaders in the support of the learning of one another.

Nurse educator, Sherri Melrose presents case reports of adult learners in the health professions, to show the ways a university conceptualizes the creation of structures of adult online learning environments that recognize and support learner autonomy for those studying courses in the health professions. She explores the ways learning experiences are designed with understandings of the unique ways that mature learners must often overcome significant challenges involved as they learn to take actions of their own to learn.

Section Three: Design for Participative Research, Teaching, and Learning: Disrupting Social and Political Discourses

The chapters in this section present practical and theoretical resources to help create environments for original, self-directed knowledge-building activities. Authors present their views about the ways educational structures must be re-organized to support the efforts of learners to take their own actions to learn. They show how new structures must often challenge and disrupt traditional ways of organizing knowledge and learning environments.

Science educator Lawrence Bencze presents the story of his lifelong work to support and study inquiry teaching approaches that promote knowledge-building and dissemination activities, where students are in full control of decisions about how their scientific inquiries will proceed. His recent research and teaching activities guide students to take “altruistic” learning actions of their own to identify, based on a social justice perspective, science and environmental issues of critical importance in the world. His work addresses the challenges of new, activist engagements in science education, noting that as students take actions of their own to learn, they may arrive at conclusions that do not necessarily align with those of mainstream professional scientists and/or engineers, thereby informing and at the same time, challenging current scientific, social and political knowledge structures.

Social work educator Kathleen Sitter employs photovoice, a participatory visual media approach that brings people together to help them address social justice and
human rights issues together. Collectively they learn to take actions of their own to present concerns that have not yet been heard by those who have the power to respond. Participants engage in a structured research process using film and photographs as pedagogical tools to articulate and share with others aspects of a story or issue that is of common concern. In this way, they learn to take action to build awareness and engage in political action. Kathleen writes, “I have found that it is in the midst of these pedagogical spaces where critical moments of consciousness occur and where individuals also become active participants in transformational learning.” (Sitter, this volume) She presents two chapters in this volume, one building the theoretical foundations of the photovoice approach by exploring its roots in visual media and social change theory. In the second chapter she presents practical considerations and an example of a photovoice project developed by her students.

Educational leadership professor Eugene Kowch describes the kinds of administrative approaches needed to build and sustain participative teaching and learning practices that create opportunities for students and their teachers to take greater actions of their own to learn. For educators to be successful, Eugene argues that they must be empowered to open up pedagogical spaces by shifting to an information age paradigm. He explores the elements and features of this new paradigm approach and suggests practical suggestions for more collaborative and co-created settings.

A RESOURCE TO GUIDE ONGOING RESEARCH AND THINKING

Through presentations of research and descriptions of practice in this volume we strive to present insights to understand how human beings take actions of their own to build knowledge. This volume is designed to serve as a resource to help identify the kinds of conditions needed to guide and support self-directed efforts. Each contribution offers a unique theoretical approach to understand the complex, dynamic processes involved as human beings engage in personal and social action as they participate in knowledge-building activities. Our chapters explore theoretical foundations and practices that support individual and collective meaning-making in a wide range of contexts. Central to this perspective on the study of learning, is a valuing of accounts of the lived experience of cognition. Included here are stories of the authors’ unique uses of theory and the presentation of research findings. They are also the stories of the authors’ personal journeys to find new frameworks to position and guide their work. Each chapter of the book, is rooted in the conviction of the importance of the view that the self-directed nature of learning must take a more central place in the understanding of the processes of knowledge acquisition. We offer new theoretical orientations and suggestions to inspire more participative research and greater support for individual and collective meaning-making. It is our hope that this volume provides guidance for researchers and educators involved in the creation of new learning and research environments that help others acquire the
ACTION TO LEARN AS A FORM OF KNOWLEDGE

freedom, confidence and support they need to learn to more effectively take actions of their own to learn in all aspects of their lives.

REFERENCES

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