Middle Grades Review

Volume 10 | Issue 2 Article 3

December 2024

Self-Directed Learning and Service Learning in Middle Grades: What are the Connections and Implications?

Katy Farber
Saint Michael's College, kfarber@smcvt.edu

Rachel Mark
Vermont State University, rbmarkvt@gmail.com

Self-Directed Learning and Service Learning in Middle Grades: What are the Connections and Implications?

Katy Farber, *Saint Michael's College*
Rachel Mark, *Vermont State University*

Abstract

How do service learning and self-directed learning connect and what are the implications for early adolescent students? The authors explore both the service learning and self-directed learning literature and research to discover the connections between the two approaches and concepts. This essay reviews existing frameworks for self-directed learning and the ways that high quality service learning can help early adolescents develop important skills of self direction for learning. Examining research in both fields for intersections and connections, the authors share a visual framework that could be used by educators to develop service learning projects that build and extend the critical skill of self direction in students. The implications of this paper include applications to educator design, organization, and structure of service learning experiences in the middle grades. Increasing student self direction has been linked to positive outcomes for students and could be explicitly integrated into the design of service learning experiences (Lew & Park, 2015).

Introduction

Young adolescents desire opportunities for autonomy and decision-making in their learning (Eccles et al., 1993). This is often a hallmark of the adolescent years as students move from learning environments that are more structured into those that feature more choice, voice, and democratic processes. Also during adolescence, rates of academic and behavioral engagement decline in the middle grades as students experience a mismatch between their developmental needs and the traditional structures of schools (Eccles et al.; Eccles & Roeser, 2011; Wang & Fredricks, 2014). As a way to meet this challenge, researchers and educators have explored pedagogies of integrative curriculum, such as project-based learning, and service learning, among others that are challenging, exploratory, and empowering (Mertens et al., 2016; Wall et al., 2018). These curricular approaches invite students to investigate issues, plan actions, and reflect upon the process and outcomes of their learning. In doing so, students have the opportunity to practice and learn the skills of self-direction (Knowles, 1975). Service learning (National Youth Leadership Council [NYLC], 2008) is particularly well-suited to tap young adolescents' need for authentic purpose, context, and audience in their learning while creating opportunities for self-directed learning (SDL). The purpose of this paper is to investigate the design features and practices of a high-quality service learning project that supports young adolescents with self-directed learning, and explore implications and a framework for these approaches. Next, we explore self-direction and service-learning research.

Self Direction

Self-directed learning originated within the field of adult education. As adults sought to better themselves outside and inside of formal education, researchers captured the beliefs, dispositions and skills that those adults must possess. Many have relied on the definition from Malcolm Knowles (1975). He defined it as:

> A process in which individuals take initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. (p. 18)

Knowles delineated education into two approaches: teacher-centered learning and self-directed learning. His work directed adult learners and teachers to the tools and beliefs necessary to develop personal and independent inquiry.

As researchers continued to explore the responsibilities and rationales for adult learning, Candy (1991) noted a paradox within self-

directed learning. Self-directed learning should be distinguished between self direction as an outcome or goal of learning and self direction as a process or method of learning. Within the confines of self-directed learning as a method, there were two conceivably distinct traits - self-management, the quality of being "self directed within one's field of constraints to free actions" and self determination, the quality of being self-directing to the "extent that one is in control of one's destiny" (Candy, p. 20). Though conceptually similar to self determination, Candy named it personal autonomy.

Garrison (1997) provided a general theoretical construct of self-directed learning within adult education. He described SDL as an interaction between four components, Motivation (Entering/Talk); Self- Management (Control); Self-Monitoring (Responsibility); and Self-Directed Learning. Garrison noted the importance of motivation on the capacity for self-directed learning. Entry motivation consists of valence (personal needs and affective states) and expectancy (belief that the desired outcome can be achieved) (Garrison). His conception of task motivation was contingent on volition, or personal will.

This visual communicates Garrison's (1997) framework.

Figure 1

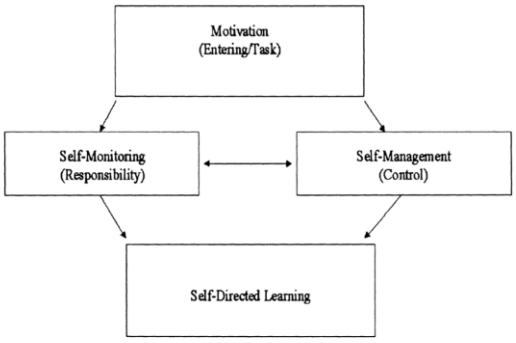


Figure 1: Dimensions of Self-Directed Learning

In 2012, national groups concerned with college, career, and citizenship readiness began to identify the knowledge, skills and dispositions necessary for students to be successful beyond secondary education. The outcome is a developmental framework called Essential Skills & Dispositions. The four component framework names self-direction in learning with three other components: collaboration, communication, and creativity. In this framework, "self-direction incorporates task management, emotional self regulation, and strategic selection and direction of learning pursuits" (Lench et al., 2015, p. 56). This framework for self direction draws upon existing theory and research to identify five components. "In addition to initiative, planning, and goal setting, this framework emphasizes critical metacognitive skills" (Lench et al., p. 58). Like Garrison, this framework identifies self management of learning as a key component of SDL.

Service Learning

Similar to most terms in education, the approach of service learning has been defined in several ways in an effort to create more purpose and engagement for students. It is important to note that service learning is not a new concept. It is firmly situated within and informed by experiential learning theory (Dewey, 1938; Kolb, 2015). Both Kolb and Dewey explore how learning is doing, then reflecting on that experience. Further, the doing is rooted in democratic action, based in community. Dewey has argued that school is not practice for real life, it is real life, and that schooling must involve civic engagement and action, and then many opportunities for reflection based on those experiences. This is the essence of service learning as well.

For this paper, we rely on the KIDS Consortium (2013) definition of service learning as an approach in which students discover problems and needs in their school; investigate the causes and effects of the problems they identify; research various solutions to the problems; evaluate the pros and cons of each solution and decide on the actions to take; create an action plan and timeline to implement ideas; implement the plan; and evaluate the results of actions. To expand on this, however, we want to add a more assets-based approach, as written about by Gloria Ladson-Billings in Culturally Responsive Teaching (1995). To add to the definition by KIDS Consortium we propose an additional step: Discovering the strengths and assets of the community or issue students are investigating. This is rooted in the work of Friere (2020), and Ladson-Billings, which centers around student and community strengths instead of deficits. Before learners can fully study and explore an issue or problem, they have to know what is happening, look for local and

contextual knowledge, and consider current progress, contributions and conditions.

The next step is to define the common components of high quality service learning. For this we turn to researcher Shelley Billig, who defined six attributes of high quality service learning experiences: investigation, planning, action, reflection, demonstration, and celebration. These components are important for service-learning projects to yield positive results (Anderson & Hill, 2001; Billig, 2011). Billig shares these components as a way to differentiate service learning from its more common approach of community service projects, highlighting key differences in these approaches and activities.

In addition to these components, Billig (2011) proposed standards that must be in place to create high quality service learning projects. First, Billig notes the importance of project duration. The experience must be long enough to engage with each component. Secondly, the project must be personally relevant and meaningful to students, and help learners reach attainable goals for the project, which leads to increased understanding and grappling with societal issues of importance. Thirdly, the projects must also be aligned with curriculum, standards and proficiencies, illustrating direct connections between the work and learning targets and goals. Reflection is the focus of the fourth standard, giving students regular opportunities to reflect on learning goals, and the intersects of self, society, and service. Lastly, it is critically important that service learning projects give students exposure to diverse backgrounds and lived experiences, while developing exposure to and understanding of different perspectives (Farber and Bishop, 2018).

Others have situated service learning as a promising pedagogy to meet both early adolescents developmental needs and also the increased call for student voice, choice, and purposeful work through personalized learning (Netcoh, 2017). The National Youth Leadership Council (NYLC, 2008) defines service learning as "an approach to teaching and learning in which students use academic knowledge and skills to address genuine community needs." In addition to Billig's components, NYLC adds a student voice and leadership dimension, focusing on engaging youth in making decisions during the planning, implementation, and evaluation processes, and acquiring knowledge and skills to enhance their leadership and decision-making.

Another definition of service learning needs to be explored here. Critical service learning, related to all critical theories for its interrogation of power structures, biases, and exclusionary practices, has been defined as an approach to civic learning that is attentive to social change, works to redistribute power, and strives to develop authentic relationships (Mitchell, 2008). Critical service learning moves beyond an act of service in isolation, firmly grounding it in systems of power and inequality, and seeks to redistribute this power and develop strong relationships between students, community members, and school staff (Mitchell). In other words, critical service learning provides context, connection, and support for students to learn about and attempt to transform societal issues and participate in civic engagement for the betterment of all.

All of these definitions of service learning empower students to investigate their interests and communities, research, develop an action plan collaboratively, gather feedback and support, participate in regular reflection, and share their work with an authentic audience, while working for positive societal change.

Students who participate in high quality service learning projects have many benefits, including academic, social, and personal. While research on service learning in the middle grades is somewhat limited, there are several studies that share the promise of meeting the academic and developmental needs of students.

One study examined the impact of service learning on 1,153 middle school students across three racially and socioeconomically diverse middle schools. This study indicated that service learning could lead to improved social responsibility and greater academic success (Scales et al., 2000). Students in this study also reported that participating in service learning encouraged them to become interested in other classes (Curtis, 2001).

Another study (McBride et al., 2014) evaluated the effects of a service learning program in a 7th grade social studies curriculum using student surveys. They found statistically significant gains in academic performance for students in the service learning experience, when compared to

counterparts at a comparison school who did not have the service learning experience. In addition, students who were deemed most at-risk for academic and behavioral issues also showed statistically significant gains in academic performance and in civic and social connectedness.

Service learning is a promising (but not new) pedagogy that has the potential to meet students' developmental needs, engage students in meaningful, purposeful work, and to build important civic, social, and academic skills. Next, we explore the connections between service-learning and the growth of self-direction skills, dispositions, and learning.

Connections

In this section we consider the connections between self directed and service learning. Specifically, we look at Garrison's (1997) framework for self-directed learning, and the Essential Skills and Dispositions (Collins Lench et al., 2015), and consider how high quality service learning experiences can support the growth of these skills. First, we will focus on the Garrison framework.

As defined earlier, Garrison (1997) focused on four components of self-directed learning: entering motivation, task motivation, self monitoring, and self management. Within this framework first we will focus on the connections between motivation and elements of service learning.

Garrison (1997) describes motivation as entering the task. Why would students be motivated to enter? This is a key part of service learning as well. What is the essential or inquiry question? Why is it relevant, or does it matter? Without this level of motivation, students might not feel invested in entering or engaging with the task. In service learning, Billig (2000) reminds us that the project must be personally relevant and meaningful to students. Without this meaning, there will be limited motivation for self direction. Billig also points to the importance of grappling with societal issues of importance. This is tied to motivation as well. Motivation drives the decision of the student to participate (Corno, 1992). Does the task have emotive force, and a moral imperative? In other words, do students care about this topic? And if not, how can the essential question be crafted to solicit emotional engagement, and propel students toward feeling a moral imperative or greater purpose in the work? Motivation is also tied to an authentic purpose and audience for the work, beyond the audience of one, work simply being done for the teacher with the sole purpose of earning a grade. When students know that they are doing work for more than an authentic audience, they feel more personally invested. Motivation is key in self-directed learning and in the practices of service learning. It seems then, that engaging in service learning can support increased motivation, a foundational element of self-directed learning.

Garrison (1997) next puts forth self-monitoring as a component of self-directed learning, or as he calls it, cognitive responsibility. Self-monitoring in Garrison's model is monitoring learning strategies and metacognition, and taking responsibility for learning (Shahrouri, 2016).

In service learning, scaffolds for students are an important part of successful, high quality service learning projects. In order for students to participate in these phases of service learning (investigation, planning, action, reflection, demonstration, and celebration) students will need various levels of scaffolding and support that builds self-monitoring behaviors and skills. These can look like different teacher roles than the traditional teacher roles of the past. Teacher roles in personalized learning include empowerer, scaffolder, scout and assessor (Bishop et al., 2020). To help students self monitor, teachers are often acting as empowerers, as in they are trying to empower students with independence and increased ownership of their learning. Teachers are also acting as scouts, helping students find resources they need to engage with service learning and map out their next steps. And then there is the scaffolder role. Teachers used the term 'scaffold' to describe many of their strategies to ensure students engaged productively in learning. When teachers engage with roles of scaffolder and scout, they are helping students to self monitor. This supports student growth and feeling of efficacy in the project. Teachers use scaffolds such as a conference model for supporting students' development in self monitoring. The conference model is a structured use of project time to allow for one on one or small group check ins with teachers, regular time for reflection and goal setting, all of which can help build self-monitoring skills. There scaffolds are critical to help students

structure time, get feedback, to reflect, set goals, and consider next steps.

Self management (contextual control) is another of Garrison's (1997) components of self direction. In service learning, teachers help students manage the project load and set realistic timelines, task lists, and their own behavior and expectations. Helping students break apart large projects into small meaningful and doable tasks supports student self management. Students are learning to build their own self-management systems in a complex service learning project because they have to, they have a reason to, and they are motivated to do so to be successful in the project. Indeed, reflection is a key tool in learning self management, and it is also an essential part of any high quality service learning project. The reflection often is the learning in service learning, because as Dewey (1938) describes, we do not learn from the experience, we learn from reflecting on the experience. Another aspect of self-management that Garrison outlines is adjusting behaviors and expectations of the project. This is a key part of the scaffolding that teachers provide in service learning. As Bishop et al. (2020) pointed out in *Teacher Roles in Personalized Learning environments* teacher roles shift in personalized learning (2020). The role of scout and empowerer often support teachers in developing ambitious but realistic goals and expectations for their projects. And, reflection and scaffolding provide ways students can understand their behavior, track the growth of their skills, and adjust their behaviors based on this reflection. So the role of service learning experiences are directly tied to the self-directed learning concept of self management in these ways.

Overall there are many intersections between the development of self-directed learning skills through service learning. This takes place as soon as the learner thinks about designing the task. The task should be personally compelling and of social and global significance to the learner during the creation of a product. Students must set timelines, doable tasks, get feedback, revise, and share their work publicly. All of these activities are supported by a student's self direction. When students feel motivated to do a meaningful task, they have volition and agency. They feel the purpose and have an opportunity to experience connections to and growth from self-direction. However, if students are used to being teacher directed, and having limited self-direction, service learning experiences can feel like overwhelming tasks. That is why it is so important for educators to plan on growing self direction in clear and intentional ways to support students. We will now explore other intersections between service learning and self direction.

Candy (1991) also focuses on self-directed learning as involving self-management and self-determination, focusing on the grounding element of moral autonomy. Moral autonomy, or acting independently about ethical and moral issues of importance, is directly linked to both Garrison's (1997) focus motivation and entering the task. The concepts are connected because learners participating in high quality service learning have a moral imperative and a societal purpose. In other words, they have a sense of collective and individual moral and ethical purpose that fuels their action. This connects to how both service learning and self-directed learning situate learning as rooted in personal needs and affective states, or what Garrison calls, valence. In Garrison's viewpoint, valence is a key part of self direction. This ties in directly with the emotive force and personally meaningful essential question or inquiry that is needed to guide service learning projects. If we are to truly engage students in sustained inquiry in planning an action or creating a project that answers a question, or improves a condition, then the student will be more self directed if they engage with their personal needs and affective states, which Garrison explains is a part of self-direction. Indeed, many educators can relate to when a task or assignment lacks any connection to personal needs or emotions, it often lacks meaning and motivation for students. Next, we explore the Essential Skills and Dispositions framework which ties in with these self-directed learning theories.

The Essential Skills and Dispositions feature a developmental framework of four essential skills: collaboration, communication, creativity and self-direction (Lench et al., 2015). The authors from the Center of Innovation in Learning detailed the components of self-direction as Self-Awareness, Initiative and Ownership, Goal Setting and Planning, Engaging and Managing, and Monitoring and Adapting. We will explore each one of these components and how they link to high quality service learning, and the previously discussed works of Candy (1991) and Garrison (1997).

Self awareness, according to the Essential Skills and Dispositions authors, is reflecting on past experiences to evaluate one's own strengths and limitations, interests and aspirations, and motivation, in differing contexts and situations (Lench et al., 2015). Here is where there are many intersections with the pedagogy of service learning. We have discussed how important motivation is to high quality service learning. Motivation, seen in this framework as part of self awareness, has been documented as critical for growing self direction. Added to this are topics of interests, strengths and aspirations. When considering self direction and service learning, students are usually engaging in activities for a larger purpose based on their interests, strengths and aspirations. So to grow self awareness, students need to know their interests, strengths, what motivates them, and what they aspire to. And if they know these things through exploration, through study and guidance, they can then apply these to being self directed in a service learning project. For example, a student who knows they have skills for graphic design might offer up these skills to help publicize the event her team is planning. She might create a digital poster to share on community forums, social media, and to put up around the school. In this way, she is using self awareness to be self directed in a service learning project. Another student might be very introverted and become stressed when in large social groups. This student might choose to work on an email campaign instead of planning and facilitating large events. The student is self aware, and this motivated self direction in a service learning experience. Students who have strong self-awareness then, have the potential to be more self directed in service learning experiences.

The next component of self direction in the Essential Skills and Dispositions Framework is Initiative and Ownership. This is defined by the framework's authors as "taking responsibility for learning, finding purposeful driving questions, shaping opportunities to fit personal interests and learning styles, and seeking feedback from others (Lench et al., 2015, p. 58). In the above examples, students were using their self-awareness to guide their motivation in a service learning project. When they are motivated, they show initiative and ownership. This means they make choices that motivate them, based on their own self awareness. And when they feel positive, productive, and able to do tasks within service learning, they are taking initiative and ownership in the project. These concepts are intricately connected, and self fulfilling. A student might feel more able to take initiative and ownership in a project if they are self aware and know that they can bring their particular set of skills, interests and abilities to the project. In turn, this can help students feel more independent and competent with their skills. So the components of self direction: self awareness and initiative and ownership seem to be the foundation for the other components. Without them as an essential foundation to a service-learning project, the other components may not flourish, since students need these to progress in the three other components: goal setting and planning, engaging and managing, and monitoring and adapting. In other words, developing self awareness in students, and then initiative and ownership in service learning projects are critical to the development of self direction in service learning.

Goal setting and planning is the process of setting goals, both long and short turn, and planning out next steps. This can be one of the most challenging aspects of service learning. The collective and small group setting of goals is an important part of service learning, especially setting the goal of a culminating event at the end of the project that feels authentic, purposeful, and focused on improving the community. Having this motivation outside of the regular school channels helps keep students motivated and engaged. So, the larger goal of a culminating event is linked to goal setting and planning in the Essential Skills and Dispositions framework. Also though, the large tasks student groups take on, and breaking these down into manageable steps, such as creating to-do lists and timelines are important life skills that foster self direction. Part of the group work, and feedback from teachers, is the crafting and execution of smaller tasks that lead to a larger project completion. This kind of experience can have lifelong learning lessons for students. The process will not be easy. There will be set backs, missed due dates, and changes in plans. But this is all learning in the project and can build resilience and self direction, and a host of executive functioning skills that will help students with feature projects, both in school and out.

Engaging and Managing involves finding credible and relevant resources to complete tasks and working at a sustainable pace on long and short term goals. This is where the teacher can play a vital role in service learning. Often,

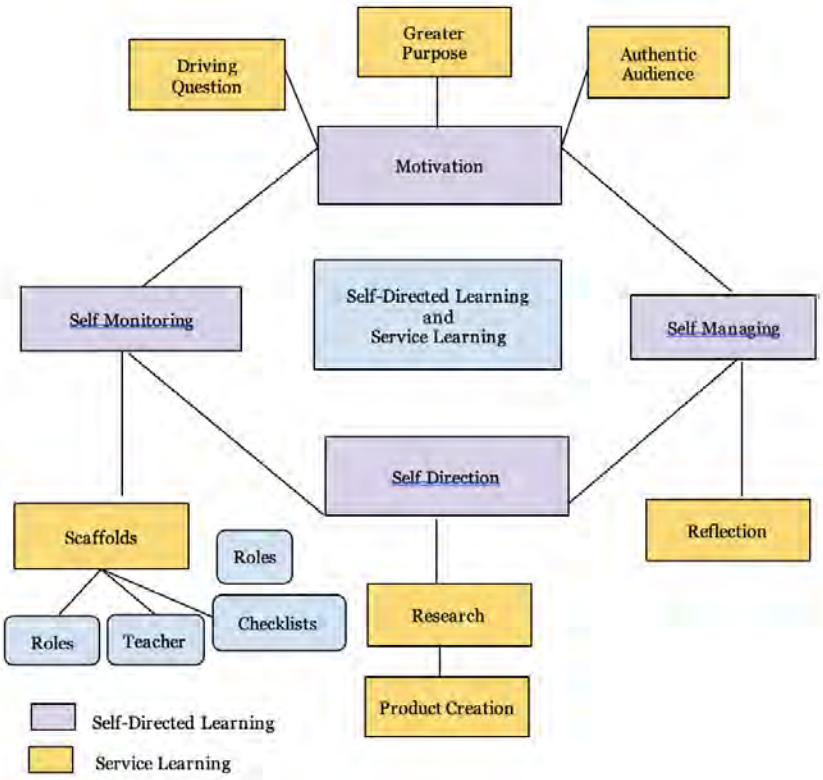
teachers in personalized learning environments are in the role of the scout, or the curator, constantly looking out for student interests, opportunities, connections to resources, human, digital, and material (Bishop et al., 2018). Teaching students how to find and use relevant resources in their research and project development is a key piece of engaging and managing that supports self direction. As students grow more independent with engaging and managing the project, they will grow in their sense of self direction. For many educators, this needs to be carefully scaffolded, but can become a life-long skill.

Lastly, Monitoring and Adapting is a component of the Essential Skills and Dispositions framework. Framework authors define it as evaluating progress, learning from failure and applying a growth mindset, and celebrating and attributing success to motivation and effort. One of the most challenging things about service learning is that the adults are not going to solve the problems for students. As often is the case in traditional education, teachers tell students what to do, and how to do it. In service learning, students have to figure out what they want to do and create to improve society or a problem or condition. Educators provide support, guidance, lessons, and resources but the learning and ownership, successes and failures, and course corrections are student determined and driven. It is here where there can be profound learning from failure. Life-long skills of being flexible, adapting, and creating in the face of challenges are growth. The skills of monitoring projects, adapting plans, and staying on track are challenging in service learning but help grow and support a student's self-direction overall.

As noted in this section, there are many connections between self-directed learning theories and frameworks and high-quality service learning. Well-designed service learning, when focused on growing skills of self direction, fosters lifelong transferable skills in students. Key aspects of service learning not only provide relevant purpose for students, but grow motivation, engagement, ownership, and self-awareness that can foster self-direction.

Figure 2

A New Framework Combining Service-Learning and Garrison's Self-Directed Learning



Conclusion

Guglielmino (2008) sums up the very real need for educators to develop self-directed learners, rooted in personally meaningful and relevant work:

> Committed, innovative, persistent self-directed learners, in their searches for meaning, justice, or better ways to do things in their own lives, sometimes pursue paths that contribute to advances in knowledge or technology or a more equitable, charitable, or just society....Our societies move forward through the efforts of dedicated self-directed learners. (pp. 9-10)

Connecting self-direction and service-learning concepts and approaches can help educators focus on the skills students need, and to design experiences in service learning that develop those skills through direct engagement and experience. Using the new framework combining the concepts and aspects of each domain, educators can see overlaps and where to focus their attention in service learning with their students.

This framework can be particularly helpful in planning service learning experiences for middle level students who are developing their self-direction skills and desiring more voice, choice, and independence in their education. Service learning, when paired with a focus on self direction, can yield powerful results that can support middle level students in building motivation, self monitoring, self managing, and self direction, all of which supports the academic and transferable skills of these students.

Especially as schools and students recover and heal from the Covid-19 pandemic, service learning is an especially powerful pedagogy to bring middle school students and communities together and to develop lifelong skills, including self direction.

References

Anderson, J. B., & Hill, D. (2001). *Principles of good practice for service-learning in preservice teacher education.*

Billig, S. H. (2000). Research on K-12 school based service learning: The evidence builds. *Phi Delta Kappan, 8*(9), 658–664.

Billig, S. H. (2011). Making the most of your time: Implementing the K-12 service-learning standards for quality practice. *The Prevention Researcher, 18*(1), 8–14.

Bishop, P. A., Downes, J. M., Netcoh, S., Farber, K., DeMink-Carthew, J., Brown, T., & Mark, R. (2020). Teacher roles in personalized learning environments. *The Elementary School Journal*, *121*(2), 311-336.

Candy, P. C. (1991). *Self-direction for lifelong learning*. Jossey-Bass.

Lench, S., Fukuda, E., & Anderson, R. (2015). Essential skills and dispositions: Developmental frameworks for collaboration, creativity, communication, and self-direction. Lexington, KY: Center for Innovation in Education at the University of Kentucky

Corno, L. (1992). Encouraging students to take responsibility for learning and performance. In D. H. Schunk & J. L. Meece (Eds.), *Student perceptions in the classroom* (pp. 57–89). Lawrence Erlbaum Associates.

Curtis, D. (2001). Real world issues motivate students. *Edutopia*. Retrieved from www.edutopia.org

Dewey, J. (1938). *Experience and education* (pp. 18). Touchstone.

Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., et al. (1993). Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and in families. *American Psychologist*, *48*(2), 90–101. http://dx.doi.org/10.1037/0003-066X.48.2.90.

Eccles, J. S., & Roeser, R. W. (2011). Schools as developmental contexts during adolescence. *Journal of research on adolescence, 21*(1), 225–241.

Farber, K., & Bishop, P. (2018). Service learning in the middle grades: Learning by doing and caring. *RMLE Online, 41*(2), 1-15.

Freire, P. (2020). *Pedagogy of the oppressed. In Toward a sociology of education* (pp. 374-386). Routledge.

Garrison, D. R. (1997). Self-directed learning: Toward a comprehensive model. *Adult education Quarterly, 48*(1), 18–33.

Guglielmino, L. M. (2008). Why self-directed learning? In H. B. Long (Ed.), *Self-directed learning: Consensus & conflict* (pp. 1-14). Oklahoma Research Center for Continuing Professional and Higher Education, University of Oklahoma.

KIDS (Kids Involved Doing Service Learning) (2013). https://www.harkinsconsultingllc.com

Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*. Associated Press.

Kolb, D. A. (2015). *Experiential learning: Experience as the source of learning and development* (2nd ed). Pearson Education, Inc.

Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal, 32*(3), 465–491.

Lench, S., Fukuda, E., & Anderson, R. (2015). Essential skills and dispositions: Developmental frameworks for collaboration, creativity, communication, and self-direction. Lexington, KY: Center for Innovation in Education at the University of Kentucky

Lew, K. H., & Park, J. H. (2015). Relationship between school achievement and self-directed learning in middle school students. *Advanced Science and Technology Letters, 115*, 122–125

McBride, A. M., Robertson, A., & Chung, S. (2014). *Assessing the impacts of service learning on middle school students: Wyman's Teen Outreach Program.*

Mertens, S. B., Caskey, M. M., Bishop, P., Flowers, N., Strahan, D., Andrews, G., & Daniel, L. (Eds.). (2016). *The MLER SIG research agenda.* http://mlersig.net/mler-sig-research-agendaproject/

Mitchell, T. D. (2015). Using a critical service-learning approach to facilitate civic identity development. *Theory Into Practice*, *54*(1), 20–28.

National Youth Leadership Council. (2008). K-12 service-learning standards for quality practice. https://6c02e432-3b93-4c90-8218-8b8267d6b37b.filesusr.com/ugd/dfdeaf_61fac153ef51444ab9003590da8f675d.pdf

Netcoh, S., & Bishop, P. A. (2017). Personalized learning in the middle grades: A case study of one team's successes and challenges. *Middle Grades Research Journal, 11*(2).

Scales, P. C., Blyth, D. A., Berkas, T. H., & Kielsmeier, J. C. (2000). The effects of service-learning on middle school students' social responsibility and academic success. *The Journal of Early Adolescence, 20*(3), 332–358.

Shahrouri, E. (2016). The impact of Garrison's model of self-directed learning on improving academic self-concept for undergraduate students. *International Journal of Education, Learning and Development, 4*(10), 36–45.

Wall, A., Massey, D., & Vaughn, M. (2018). *Research summary: Student agency*.

Wang, M. T., & Fredericks, J. A. (2014). The role of parental involvement in adolescents' academic engagement and achievement: A cross-lagged effect and mediation model. *Journal of Youth and Adolescence, 43*(8), 1257–1271. https://doi.org/10.1007/s10964-013-9940-1