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From the Editor

Although it is hard to believe that we are publishing the second issue of the *Journal of Montessori Research* during the COVID-19 pandemic, we are pleased to share three outstanding articles. It is refreshing to know that great work is still being produced despite the challenging times we are living in.

The issue begins with two critical reviews of the literature relating Montessori education to the areas of leadership theory and personalized instruction. Grounded in leadership literature, the first article suggests that a distinct perspective on leadership emerges from Maria Montessori's writings on the concepts of following the child, the prepared environment, the prepared adult, service, and morality. The second article proposes that Montessori education is an exemplar for implementing personalized instruction based on the common threads running through the two fields. The final article in this issue is empirical research examining the stories of Montessori middle school students who transitioned to public high school, focusing on their academic and socioemotional skills, attitudes toward learning, and self-reliance. Connections to the broader field of education and insight into Montessori adolescent student experiences represent valuable contributions to the field.

With this issue, we have transitioned to the 7th edition of the *Publication Manual of the American Psychological Association*. All future submissions should follow the revised style guide. A summary of changes for the new edition is available at this link.

Finally, as the end of the year approaches, I encourage all of you who are engaged in Montessori research to consider joining or renewing your membership in the American Educational Research Association (AERA) and the Montessori Education Special Interest Group (SIG).

Sincerely,

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Montessori Literature Through the Lens of Leadership

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Abstract: This article reviews the Montessori literature through the lens of leadership, using Maria Montessori's writings for a perspective on leadership aligned with her principles and practices. Dr. Montessori was a strong leader who argued that adults, as leaders, should take direction from children as the spiritual builders of human beings. Her concept of the prepared environment, including the prepared adult, supports this foundation for leadership and has applications beyond the classroom context. Leadership in the Montessori context has a biological base but incorporates elements of service and morality that guide social reform with a peaceful telos. While there are overlaps with existing models of leadership, this review suggests that a distinct perspective on leadership does begin to emerge from Dr. Montessori's legacy.

Adair (1989) traced the etymology of leadership to the Anglo-Saxon root *laed*, a path or road, and *laeden*, a verb meaning to travel or go. *Leadership* is defined as "the action of leading a group of people or an organisation, or the ability to do this" (Oxford University Press, n.d.). Political scientist James MacGregor Burns, who wrote a seminal text in the leadership field, added the concept of values: "I define leadership as leaders inducing followers to act for certain goals that represent the values and the motivations—the wants and needs, the aspirations and expectations—of both leaders and followers" (Burns, 1978, p. 19).

The leadership literature is large and diverse, but a review found few research studies addressing leadership in the Montessori context and almost no publications that could be considered to make substantial links between leadership and Montessori principles and practices. Maria Montessori does not appear to have status as a leadership theorist, remaining classified as a pedagogue, much of whose innovation has been included in contemporary practice without reference to its origins (Feez, 2010; Mooney, 2000). In this review, to allow Dr. Montessori's perspective on leadership to emerge, inferences have been drawn from her original writings.

Dr. Montessori's specific references to leadership appear fragmentary, subtle, or indirect. She did not set out to write specifically about leading, and the term *leadership* was not as commonly used in her day. Dr. Montessori's publications are sprinkled with references to leaders within scientific and social fields. For example, she referred to the Czech philosopher and pedagogue, Comenius, in *From Childhood to Adolescence* (M. Montessori, 1948/1994), the contributions of many ancient Greek leaders in *To Educate the Human Potential* (M. Montessori, 1948/1989b), and the legacies of Darwin and De Vries in her chapter on embryology

in *The Absorbent Mind* (M. Montessori, 1949/2007a). Her own leadership can be traced through various biographical works (Babini, 2000; Foschi, 2008; Kramer, 1988; Standing, 1957/1998; Trabalzini, 2011). She was a pioneer of women's rights, but Kramer (1988) reported that Dr. Montessori made the most of her personality to champion the cause of children. Margaret Naumberg, one of Dr. Montessori's early students, described her arrival in the United States in 1913, where she was greeted as a distinguished visitor, was the guest of Alexander Graham Bell, and was received in a special audience by President Woodrow Wilson: "Montessori is in America now. Three years ago no one over here even knew of her existence. Today they use her name as a leader" (Naumberg, 1913, p. 796).

Naumberg has described the charisma that was an aspect of Dr. Montessori's leadership:

> *She can seize an audience and sweep it with her by the sheer drawing power of her personality. She is one of those rare people who can at times speak and give themselves to an audience without reserve. As she talks she intuitively expresses every thought with the slightest movement of her body. Her voice becomes vibrant, her eyes luminous, a general radiance suffuses her form, and the words break from her lips aglow.* (Naumberg, 1913, p. 799)

The words of one of her biographers support this view:

> *… the effect she always had on peers and pupils, strangers who became her devoted followers, listeners who came to hear her and with striking frequency spoke of being "converted," "enlightened," of having their way of seeing things—sometimes their entire lives—changed by her presence. It was not just her message. . . . She had the kind of personality that invites identification.* (Kramer, 1988, p. 114)

Dr. Montessori's grandson, Mario M. Montessori, wrote that she maintained her vitality and personal magnetism up until her death (M. M. Montessori, 1992). Standing (1957/1998) claimed that in private she was more diffident, and this is supported by her statement reflecting the humility of her leadership:

> *Further I protest against myself being hailed as the great educator of this century, because what I have done is merely to study the child, to take and express what he has given me, and that is called the Montessori Method. At the most I have been the child's interpreter.* (M. Montessori, 1946/1989a, p. 4)

Dr. Montessori's legacy was informed by a rich intellectual heritage: Italian mentors in her early work in science, medicine, and anthropology; French doctors Jean Marc Gaspard Itard and Édouard Séguin, who initially inspired her pedagogical direction; philosophical study in humanism, ancient Greek philosophy, and German classicism; and her experiences in India from 1939 to 1946, where she was exposed to Eastern traditions. Yet by placing the child at the center of all human endeavor, her view seems to challenge contemporary leadership perspectives. Her body of work addresses broad social themes of human development and peace, as well as ontological universalities and contextualities. Dr. Montessori viewed education as broad and lifelong—not merely a transmission of culture but a help to life in all its expressions. In the classroom, this help is overseen by an educational leader, called a *directress* in her day (M. Montessori, 1912/1964), who engages in leadership by taking direction from the child.

Leadership Literature Review

The literature outlines a variety of different leadership theories and styles whose relevance depends on the context in which it is applied (Ahmed et al., 2016). Burns (1978) initially cemented the leadership field's progress beyond a focus on the individual traits and psychology of the leader, leading to decades of work on transformational leadership. Transformation became the leadership approach of choice for researchers and practitioners, becoming associated with higher levels of performance and behaviors (Bass & Riggio, 2006). Heifetz (2009) argued for a less grandiose conception of leadership, preferring an orientation that addresses the dailiness of the work. He drew from evolution theory to develop an adaptive leadership theory. Conger (1989) investigated charismatic leadership, which emerged from corporate work in the 1980s and emphasized entrepreneurial leaders with charm, heroism, and skilled self-marketing. In contrast, Greenleaf (1977) began to shift the focus

toward servant leadership. This paradoxical model argues the effective leader is humble, going beyond self-interest to serve without expecting to be served. The leader is a servant first and leader second. Servant leadership has a reciprocal relationship between leader and follower that invokes a mutually upward spiral (van Dierendonck, 2010).

For some time, leadership has been considered through a range of lenses, including gender and feminist perspectives (Blackmore, 2013; Rhode, 2003) and cross-cultural perspectives, particularly from non-Western models, though these models are acknowledged as diverse (Arvey et al., 2015; Derungs, 2011). Contextual approaches, such as religious leadership (Callahan, 2013), are becoming well represented, and youth leadership is an emerging strand (Dempster et al., 2013; Gould & Voelker, 2012). Giacalone and Jurkiewicz (2010) wrote of a burgeoning scientific interest in the role of spirituality as the search for meaning extends from the personal to the professional arena. Van Dierendonck (2010) stated that spiritual leadership overlaps with servant leadership, but the latter has avoided much confusion by being entirely secular. Spirituality has begun to be linked to indigenous leadership (Julien et al., 2010), but more studies appear needed to develop this thread. Gronn's (2010) genealogy revealed that the issues that preoccupy leaders are of a timeless and enduring nature. Yet others lament the lack of philosophical depth, critical ethos, and analysis of major global crises in terms of leadership from leadership researchers more concerned with journal rankings (Tourish, 2015).

Thinking about the limitations of previous research and the need for authentic leadership in Montessori settings induced me to revisit Dr. Montessori's original ideas. From the beginning, she was writing in terms of leadership concepts from the literature, including transformation, adaptation, service, humility, contextual elements, and spirituality (M. Montessori, 1912/1964). She also acknowledged the importance of charisma, insisting her teachers "attract," "be seductive" and "entice the children" to activity (M. Montessori, 1949/2007a, p. 253). How might Dr. Montessori's publications provide direction for leaders today?

Montessori Philosophy

Tornar's (2001) significant bibliography described the editions, reprints, and translations of Montessori texts over the years. Dr. Montessori's early graduate writing in medicine was a foundation for *The Montessori Method,* published in 1912, and subsequently considered the birth certificate of Montessori pedagogy (Trabalzini, 2011). Most of Dr. Montessori's more mature publications are based on lecture notes compiled by others. These later works are the fruits of a lifetime's research and study and are characteristically broader. In these, Dr. Montessori considers education over wider stages of life; refers to developing sciences such as psychology, embryology, and ecology; locates the achievement of global peace firmly within the field of education; and describes contemporary social problems and the child's contribution to world reconstruction.

Dr. Montessori wrote and lectured mostly in Italian and scholars have documented issues with translation of her work (Feez, 2007; Kramer, 1988). Lloyd (2008) claimed that Dr. Montessori's theoretical perspective is not readily available in published literature, though an understanding of Montessori terminology is central to fully appreciate her legacy. Feez (2007) confirmed that Dr. Montessori did not outline her key principles with clarity, and trawling through the mix of anecdotes, philosophy, opinion, and loosely described theoretical positions in her books is required to fully grasp the nuances. Authors have attempted to contain and elucidate Montessori principles and practices over the decades. Haines's (2001) glossary of Dr. Montessori's key terms explained some central ideas that relate to the education of children of 3 to 6 years of age.

Lillard (2005) outlined eight principles and several practices that reflect differences in the setup, schedule, and curriculum of a Montessori classroom compared with a traditional classroom. Schmidt and Schmidt (2009) listed 18 Montessori principles and 19 teaching techniques used to implement those principles. Other writers have discussed key Montessori concepts using contemporary or simplified terminology (Feez, 2010; Helfrich, 2011; O'Donnell, 2013). Feez (2007) emphasized that Dr. Montessori did outline a complex and sophisticated theory of practice in each of her principles, and these principles should not be oversimplified. Cossentino (2009) argued that many aspects of Dr. Montessori's legacy are paradoxical, such as the emphasis on freedom while also valuing order and limits. Cossentino believed paradoxes define the vitality of the Montessori approach, but they have been confounding and have limited the study of Montessori

education by scholars and policymakers. In this sense, the literature offers an open field for exploration, interpretation, and connection to other pedagogies and wider disciplines.

A Biological Base

One of Dr. Montessori's biographers wrote, "So often, we find an underlying affinity between Montessori's system and biology. Indeed it is true to say that her whole system—in theory and practice—has a biological foundation" (Standing, 1957/1998, p. 118).

We have a much greater understanding of biology today than in her time, but Dr. Montessori's notions of the interdependence of organisms remains relevant. Standing (1957/1998) claimed that her research methodology was, in essence, the same as that of biologists observing the spontaneous activity of free organisms. Like the biologist, she was interested in both the organism and its integration within a living system.

> *In giving an account of the Montessori system it is difficult to know where to begin, because it is hard to single out one principle as more important than the others. In an organism all organs are essential, for each plays a necessary part in the whole. And so it is in the Montessori system, and for much the same reason; because it is a* living *system. It displays that multiplicity in unity which is characteristic of all organisms.* (Standing, 1957/1998, p. 105)

Dr. Montessori perceived children as the constructors of adults, powered by inborn vital energies, writing "The origins of the *development,* both in the species and in the individual, *lie within*" (M. Montessori, 1912/1964, p. 105). She argued that there were universal human tendencies, such as to orient, to order, to explore, to communicate, to create, and to abstract, and these operated throughout each person's lifespan. Yet she claimed there were other constructive powers, such as the young child's absorbent mind and sensitive periods, which were time limited within a continuum of developmental stages (M. Montessori, 1946/1989a, 1949/2007a).

Dr. Montessori drew attention to "the significant unity of method in all natural building," which can be considered for life at any scale, "for atom as for planet" (M. Montessori, 1948/1989b, p. 76). She saw that this method included the freedom and independence of organs, the development of cell specialization, the unification of organs by the circulatory system, and directive communication through the nervous system.

The alignment of human development and activity with biological principles offers the first clues toward a Montessori perspective on leadership. For Dr. Montessori, the human organism was a vibrant, integrated, and coherent community that is governed by specially prepared internal leadership:

> *The nervous cells specialize in refinement, and one cannot conceive of one of them taking upon itself to turn starch into sugar, or fight a microbe. They imprison themselves in a closed box, the cranium, and it is not by any general election that they get their place in the governing body. The embryo can teach us the absurdity of our social mechanism, where one group claims to dominate another merely by authority, without agreement. Nature is the teacher of life—let us follow her ways!* (M. Montessori, 1948/1989b, p. 77)

Dr. Montessori foresaw increasing globalization, not yet fully recognized in her own time, as an inevitable stage in the life of humanity, which had become "a single organism, one nation" (M. Montessori, 1992, p. 25). She envisioned a circulatory system within social life, whereby products from different peoples moved through the system, and everyone took what they needed for their lives:

> *In recent years, we can even see the growth of arrangements doing the work of hormones. These are the efforts of large states to plan the environment, to control commerce, stimulate, encourage, and direct the undertakings of all nations, simply with a view to achieving greater harmony and well-being of all. One may say that the defects that have shown themselves clearly enough in these attempts merely prove that the embryonic development of the social circulatory system, though it has made a beginning, is still far from perfect.* (M. Montessori, 1949/2007a, p. 40)

Dr. Montessori continually repeated her call for human systems to be inspired by and take direction from nature's patterns:

> *As for the specialised cells of the nervous system, anything corresponding to these is still woefully lacking in human society. . . . We have nothing that acts simultaneously on the whole social body, and guides it to harmony. Democracy, which is our civilisation's highest form of government, permits everyone to vote, and so to choose the Head of Affairs. For this to happen in embryology would be absurd beyond belief, for if each cell has to be specialised, then the cell able to direct all the others must be even more specialised.* (M. Montessori, 1949/2007a, p. 40)

She continued:

> *Whoever directs others must have transformed himself. No one can ever be a leader or a guide who has not been prepared for that work. This principle, which links specialisation with function may well engage our active attention—all the more so as it seems to be nature's way.* (M. Montessori, 1949/2007a, p. 41)

These passages suggest Dr. Montessori considered leadership at different social levels, though the writing does not allow us to clarify her perspective easily. However, we can infer from her ideas about human nature that she believed leadership required some maturity, but that potential for leadership work lay within each person, flourishing under a preparation that was transformational.

Training as Preparation for Leadership

The notion of *training* is an interesting counterpoint to the term *education*, often used in conventional teacher-preparation programs today. Dr. Montessori saw education as an aid to life, "not something which the teacher does, but . . . a natural process which develops spontaneously in the human being" (M. Montessori, 1949/2007a, p. 3). A respected contemporary Montessori leader argued that Montessori teacher training can be considered a psychological and spiritual preparation for leading a community of children that supports this natural process:

> *Montessori training has excelled in many areas. It has made every effort to convey a* spirit *of pedagogy so that the teacher is not merely an imitator of Montessori styles, but a thinking teacher, one who is on a certain mental quest. . . . If duration of the training permits, Montessori expertise becomes more than the knowledge of a curriculum; it is participation in a way of life, where the soul of learning is rooted in the development of the child.* (Kahn, 1981, p. 2)

Leadership within this way of life is enacted through the goal of supporting the free, independent development of the human personality. The child does not exist merely to grow up but also has the task of constructing a unique personality (M. Montessori, 1949/2007a). The Montessori teacher is trained to entice the child to work and can offer a distinct application of charisma to support the constructive process. Dr. Montessori stated that "the essential thing is for the task to arouse such an interest that it engages the child's whole personality" (M. Montessori, 1949/2007a, p. 188).

The Montessori teacher's charisma is used just enough to invoke the child's concentration. Dr. Montessori believed that people are the authors of their own skills and that their different destinations can never be predicted (M. Montessori, 1949/2007a). She advocated an education based on natural, universal characteristics and tendencies, with freedom, opportunity for individual work, concentration, and repetition. When the environment is designed to foster these aspects of the child's work, the child undergoes a transformative process that Dr. Montessori referred to as *normalization*. She considered normalization a universal and observable phenomenon that is the child's contribution to society (M. Montessori, 1949/2007a). This contribution led her to believe that the child is the source of human regeneration, and she called upon world leaders to follow the child when considering human problems. She ended a speech to the World Fellowship of Faiths in London in 1939 with a clear image of the child as the leader of men: "We see the figure of the child who stands before us with his arms held open, beckoning humanity to follow" (M. Montessori, 1992, p. 119).

Dr. Montessori linked leadership and followership again in speaking to her students in 1942: "Anyone who wants to follow my method must understand that he should not honour me, but follow the child as his leader" (M. Montessori, 1970, p. 7).

These child-focused words challenge traditional, hierarchically focused notions of leadership often evident in education but also connect Dr. Montessori's ideas to developmental approaches and to models with inherent

quietness and humility, such as servant leadership and spiritual leadership.

The Teacher as Servant Leader: A Prepared Adult

Arguing that development cannot be taught (M. Montessori, 1949/2007a), Dr. Montessori prepared her teachers to lead with the attitude of the scientist. This attitude defines a spiritual training in which one becomes a worshipper of nature:

> *The thing which we should cultivate in our teachers is more the* spirit *than the mechanical skill of the scientist. . . . We wish to* direct *the teacher, trying to awaken in him, in connection with his own particular field, the school, that scientific* spirit *which opens the door for him to broader and bigger possibilities. In other words, we wish to awaken in the mind and heart of the educator an* interest in natural phenomena *to such an extent that, loving nature, he shall understand the anxious and expectant attitude of one who has prepared an experiment and who awaits a revelation from it.* (M. Montessori, 1912/1964, p. 9)

Yet the Montessori teacher is an active leader, not restricted to observation. The teacher's leadership, which is an element of the environment, suggests the stewardship of a self-organizing, self-actualizing ecosystem. Dr. Montessori did not use the term *ecosystem*, but sprinkled throughout her writings are references to concepts such as community, organisms, interconnection, cycles, energy, internal and external processes, function, adaptation, renewal, potentialities, equilibrium, and natural laws and processes (M. Montessori, 1949/2007a). She advocated considering classroom inputs carefully, studying the relationship between elements in the environment, setting limits, nurturing self-balancing processes, and analyzing outputs to determine what was needed next. The Montessori classroom is inherently sustainable, and obstacles to individual independence and to the interdependent harmony of the overall system are diminished or removed (M. Montessori, 1949/2007a). The teacher's personal preparation must be a complete self-transformation, so that the teacher does not become the obstacle: "Every useless help given to the child becomes an obstacle to his development. This is not merely philosophy but a fact to which we attach fundamental importance" (M. Montessori, 1994/2004, p. 15).

Dr. Montessori therefore recommended that each teacher make a deep preparation beneath the external pedagogical veneer to model moral leadership and "acquire a moral alertness which has not hitherto been demanded by any other system" (M. Montessori, 1948/1967, p. 151). Dr. Montessori wrote that this alertness was revealed in the teacher's tranquility, patience, charity, and humility. "Not words but virtues" (M. Montessori, 1948/1967, p. 151) are the teacher's main qualifications.

The degree to which these concepts are bound to time and culture can be debated, but recent philosophical research has shown Dr. Montessori's thought can enrich contemporary virtue epistemology (Frierson, 2015). Paradoxically, leaders in a Montessori context are both assistants and servants of the human spirit, a reversal of roles relative to conventional education:

> *We teachers can only help the work going on, as servants wait upon a master. We then become witness to the development of the human soul; the emergence of the New Man, who will no longer be the victim of events, but thanks to his clarity of vision, will become able to direct and to mould the future of mankind.* (M. Montessori, 1949/2007a, p. 8)

Here Dr. Montessori spoke about the teacher's role in preparing future leaders. Yet not all those she trained were destined for an educational career. Over her lifetime, she did not limit her training only to teachers but rather spoke to all adults with the same conviction: "The child is our teacher. Adults must above all be educated to acknowledge this fact so that they may change their behaviour toward the generations that come after them" (M. Montessori, 1992, p. 37).

Dr. Montessori reinforced the significance of humility and service as key pedagogical principles guiding the preparation of the adult who is led by children. In the Montessori approach, this paradoxical view of leadership is situated within the prepared environment.

The Prepared Environment as a Foundation for Child-Led Activity

Dr. Montessori claimed that the primary factor in developing human individuality was the power of natural, universal, inner forces. However, she saw the environment as influential, arguing that an appropriate environment

was required for optimal human development based on these inner forces: "*Environment* is undoubtedly a *secondary* factor in the phenomena of life; it can modify in that it can help or hinder, but it can never *create*" (M. Montessori, 1912/1964, p. 105).

Nevertheless, the Montessori teacher addresses the needs of children indirectly by enacting leadership as the custodian of an enticing environment that functions as a world of progressive interest. The reciprocal, transformative relationship of people and their environments is a central Montessori tenet. The child's particular form of psychology shapes an unfolding self-construction:

> *Adults admire their environment; they can remember it and think about it; but the child absorbs it. The things he sees are not just remembered; they form part of his soul. He incarnates in himself all in the world about him that his eyes see and his ears hear. In us the same things produce no change, but the child is transformed by them. This vital kind of memory . . . absorbs images into the individual's very life. . . .* (M. Montessori, 1949/2007a, p. 56)

Dr. Montessori understood the child's creative powers for self-construction included the capacity to adapt to different cultures through environmental interaction. This drew her to focus the teacher's attention on the environment as the child's true teacher. Montessori environments are consequently prepared. An element of the prepared environment is the set of didactic materials, the prime purpose of which is to develop the child's energies. Dr. Montessori argued that the materials not only render self-education possible, but also provoke it (M. Montessori, 1912/1964). Her selection of objects emerged from observation. She found children were attracted to real, purposeful materials with beauty, simplicity, and order, and that it was best if these materials were durable, child sized, and accessible at low height. In maintaining the environment, the teacher becomes a servant leader, checking daily that everything is clean, tidy, and attractive to the children. The materials are limited in number but offer unlimited possibilities for exploration. Each environment is a reflection of the adaptive leadership of the teacher. Montessori principles are applied in keeping with the specific needs of the unique group of children within the classroom. The prepared environment offers all the essentials for the optimal development of each child but nothing superfluous. Materials support independence by isolating difficulties and having inbuilt control of error, simultaneously guiding, stimulating, and liberating the individual child (Bone, 2019). The principle of giving just enough help, which also relates directly to the leadership of the teacher, is paramount. An error

> *may be committed by an excessive quantity of educative material: this may dissipate the attention, render the exercises with the objects mechanical, and cause the child to pass by his psychological moment of ascent without perceiving it and seizing it. Moreover, such objects are then futile, and by their futility, "the child may lose his soul."* (M. Montessori, 1918/1991, p. 61)

Here Dr. Montessori emphasized the spiritual connection of the child to the environment and the custodial servant leadership responsibilities exercised by the teacher. The relationship of the teacher's leadership to the development of children's spirituality within the prepared environment is discussed in more detail in Bennetts and Bone (2019). Dr. Montessori drew parallels between the child burdened by an excess of materials and an overindulgent adult, who was weakened and undisciplined: "If someone does not help him by wresting from him the futile objects, and pointing out his heaven to him, he will hardly have the energy to save himself" (M. Montessori, 1918/1991, p. 62).

Dr. Montessori considered adults who have saved themselves to be spiritual leaders:

> *A few men have "rescued" themselves from the shipwreck of humanity and lived simple, active lives—the lives, in fact, of children. These men, who have won their own salvation, whom we call saints, have given the world proof of a love capable of benefiting all mankind.* (M. Montessori, 1992, p. 58)

Dr. Montessori viewed her didactic material as a spiritual staircase that brought forth the child's perseverance and joy, characteristic of the spirit when the internal energies have found their keyboard (M. Montessori, 1918/1991). The fixing of the child's attention on an activity manifests as equilibrium, serenity, and self-control. Yet for Dr. Montessori, *materials* was a

conceptualization not limited to a concrete form. Older children gradually move away from manipulatives, working in the abstract. Adolescents continue self-education through their connection with the land and their affinity with elders in the environment, who may operate as didactic materials (Kahn, 2005). Dr. Montessori does not appear to have specifically elaborated what materials might provoke self-education of the mature adult. Through the legacy of her literature, however, as part of her own preparation for leadership, she modeled observation of nature, as well as reading and reflection on well-credentialed work from a wide range of scientific and philosophical disciplines.

The Child as an Emerging Leader in the Community

Kahn (2005) suggested that Dr. Montessori's fame as an educationalist obscures her contribution as a social philosopher. She grappled with large questions, and, from the beginning, her writings addressed themes of liberty, responsibility, morality, spirituality, consciousness, the family, work, and society (M. Montessori, 1912/1964). Montessori classrooms are a mixed-age minisociety, and socialization unfolds naturally in response to shared interests, rather than an imposed, age-delineated structure. The needs of the group frame the limits to individual freedom, and the teacher models decision-making with grace and courtesy. Dr. Montessori stated that moral principles could not be given by teaching but by prolonged social experience in keeping with the child's developmental stage:

> *Little children go along harmoniously by themselves, but junior-age children need a leader to rule and command. They need another kind of organisation. . . . We can compare the two forms to a piece of weaving. When a piece of cloth is to be woven, the warp is prepared first. All the threads lie close together, but parallel to each other. This is like the society by cohesion. They are all fixed at one point, but they do not intermingle. The second stage is when the shuttle attaches all the threads together. This is like the work of the leader who connects all the people together.* (M. Montessori, 2012, p. 138)

Dr. Montessori believed that after the age of 6, the child associates the self with others, not merely for the sake of company but also for social organization: "He likes to mix with others in a group wherein each has a different status. A leader is chosen, and is obeyed, and a strong group is formed. This is a natural tendency, through which mankind becomes organised" (M. Montessori, 1948/1989b, p. 4).

Dr. Montessori believed the connection to the leader comprised moral elements:

> *Civilisation is to be judged not only by its outer appearance, but also by its moral standards. Nomads . . . required . . . great discipline, order and bravery, endurance of cold, heat, lack of food and water, and a special tribe loyalty and devotion to a leader.* (M. Montessori, 1948/1989b, p. 49)

In the post-WWII climate, Dr. Montessori was highly sensitive to such devotion, considering obedience in its relationship to self-control and the will.

> *Obedience is no mechanical thing, but a natural force of social cohesion, intimately related to the will, even its sublimation. . . . Obedience of the right kind is a sublimation of the individual's will, a quality in the human soul without which society could not exist. But an obedience without true self-control, an obedience which is not the consequence of an awakened and exercised will, brings whole nations to disaster.* (M. Montessori, 1948/1989b, p. 84)

Dr. Montessori noted that great achievers experience an earlier period of intense effort toward a goal, not necessarily on the same lines as the final work. This effort orients the spirit and is an indirect preparation.

> *So indirect preparation was adopted as an integral part of the Montessori Method. We had seen that nature prepares indirectly in the embryo; she issues no orders until the organs have been prepared for obedience. Character, can be built only in the same way.* (M. Montessori, 1946/1989a, p. 56).

The importance of this inner work convinced Dr. Montessori that the child was the origin and the transforming and uniting element of society.

> *So we get an insight into the natural course of social embryology. It is usual to regard society as based on government and laws; the children reveal that there must first be individuals of developed will, and then a call which brings them together preceding organisation.*

> *First strength of will is needed, then cohesion by sentiment, and last cohesion by will.* (M. Montessori, 1946/1989a, p. 66)

Dr. Montessori offers clues to the value she gave to experience in society as a prerequisite for leadership.

> *The social experience begun earlier must be continued, because the person who has never worked, who has never tried to make his own living, who has never mingled with people of different age and of different social classes, will with difficulty become worthy of becoming the leader of anything.* (M. Montessori, 1948/1994, p. 91)

Here Dr. Montessori speaks of the relationship between leadership, worthiness, diversity, and independence. She saw independence as a basic outcome of education and closely linked to freedom. Independence shapes the teacher's service into a lofty activity that supports self-mastery and dignity, without sinking to the actions of a traditional servant: "In reality, *he who is served is limited* in his independence. This concept will be the foundation of the dignity of the man of the future; 'I do not wish to be served, *because* I am not an impotent'" (M. Montessori, 1912/1964, p. 97).

The notions of freedom and independence as precursors to interdependence connect back to nature's plan as Dr. Montessori perceived it.

> *The man who, through his own efforts, is able to perform all the actions necessary for his comfort and development in life, conquers himself, and in doing so, multiplies his abilities and perfects himself as an individual. We must make of the future generation, powerful men, and by that we mean men who are independent and free.* (M. Montessori, 1912/1964, p. 101)

Dr. Montessori saw the basic social problem as "human development in its totality; once this [result] is achieved in any unit— child or nation—everything else follows spontaneously and harmoniously" (M. Montessori, 1948/1989b, p. 9).

Dr. Montessori clarified that the core of social problems, from small to large scale, lies in the development of the individual human being. This is a lifelong unity of conception that seems missing from the leadership literature, which continues to emphasize leadership in the adult.

Leadership for Social Reform and a Peaceful Telos

Dr. Montessori's culturally coherent, if paradoxical, metanarrative invokes a peaceful telos, or ultimate aim, of human progress.

> *All humanity that works for the common good, even though it may be unaware of it, is creating the new world that must be the world of peace. The great efforts of men who have laboured, made discoveries, studied and suffered—all the work of mankind will be seen to have had one common purpose in the world that will be the word of peace.* (M. Montessori, 1949/1992, p. 115)

Dr. Montessori returned to children and education to demonstrate the pathway to peace.

> *World-shaking forces are now making the realisation of human unity an urgent necessity. The time is past when some racial groups or nations can be civilised, leaving others servile or barbaric. Persistence in these outworn ideas can lead only to further wars and self-destruction, and how can a general change of thought be effected but by the teacher, not as tyrant or missionary, but as essential leader of the rising generation?* (M. Montessori, 1948/1989b, p. 77)

Decades after Dr. Montessori's call to action, the evolution of integrated systems to support human development, across its various stages, progresses slowly. The potential of the child as a guide that adult leaders can follow seems misunderstood or missing in our actions, reinforcing the child's status as a "forgotten citizen" (M. Montessori, 1949/1992, p. 38). The Montessori teacher exemplifies a perspective on leadership aligned with Montessori principles and practices. The teacher's authority to lead the classroom community emerges from teaching credentials and a formal appointment, yet Dr. Montessori wrote, "It is responsibility that a leader should feel, not the authority of his position" (M. Montessori, 1989a, p. 65).

This is a moral responsibility within a broad social mission, making leadership in the Montessori context distinct. Such a mission is embraced through a focus on each human being as a unity: "There exists only one real biological manifestation: the *living individual*; and toward single individuals, one by one observed, education must direct itself" (M. Montessori, 1912/1964, p. 104).

Herein lies a great, self-balancing Montessori paradox that a strong, peaceful, and cohesive community constructs itself from a base of individual development.

Conclusion

Dr. Montessori covered a biologically based terrain of practices, values, and morality, yet to be fully illuminated for researchers, but which articulated her vision of the child as both a "hope and a promise for mankind" (M. Montessori, 1949/1992 p. 31). Her own leadership and her vision of the teacher as a classroom community leader have affinity with existing leadership concepts such as charisma, transformation, adaptation, service, humility, contextual elements, and spirituality. This affinity invites Montessori practice in from the margins, linguistically and conceptually, to a more central position within contemporary discourse. Further research is likely to shed more light on the relationship of these concepts to Montessori leadership. The connection of other aspects of Montessori philosophy to leadership, such as freedom, observation, beauty, and order, offer additional avenues for investigation. The connection of Dr. Montessori's ideas to leadership theorists who draw from ecological principles, holism, and systems theory could also be explored. Yet the centrality of the child, powered by inner constructive forces and beckoning the adult to follow, distinguishes her perspective. Her concept of the prepared environment contributes to a harmonious, century-old phronesis, offering a sustainable model of leadership that emphasizes human regeneration as the means to confront social problems. Underpinning her peaceful pedagogy is the release of potential through the free, independent development of individuals as the building blocks of society. This is an indirect preparation for leadership, offering potentially innovative and preventative avenues to approach contemporary issues in and beyond the classroom context.

While Dr. Montessori did not set out to write about leadership, she was a well-read leader of significance herself, and her references to leading are indicative of a strong and distinct position. Further study to articulate a Montessori perspective on leadership must therefore be seen as potentially fruitful for researchers and practitioners.

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References

Adair, J. E. (1989). *Great leaders: Lessons from the world's greatest leaders*. Talbot Adair Press.

Ahmed, Z., Nawaz, A., & Khan, I. (2016). Leadership theories and styles: A literature review. *Journal of Resources Development and Management, 16*, 1–7. https://www.researchgate.net/publication/293885908_Leadership_Theories_and_Styles_A_Literature_Review.

Arvey, R., Dhanaraj, C., Javidan, M., & Zhang, Z. X. (2015). Are there unique leadership models in Asia? Exploring unchartered territory. *The Leadership Quarterly, 26*(1), 1–6 https://doi.org/10.1016/j.leaqua.2015.01.003

Babini, V. P. (2000). Science, feminism and education: The early work of Maria Montessori. *History Workshop Journal, 49*(1), 44–67. https://doi.org/10.1093/hwj/2000.49.44

Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership* (2nd ed.). Lawrence Erlbaum Associates.

Bennetts, K., & Bone, J. (2019). Adult leadership and the development of Children's Spirituality: Exploring Montessori's concept of the prepared environment. *International Journal of Children's Spirituality, 24*(4), 356–370. https://doi.org/10.1080/1364436X.2019.1685949

Blackmore, J. (2013). A feminist critical perspective on educational leadership. *International Journal of Leadership in Education, 16*(2), 139–154. https://doi.org/10.1080/13603124.2012.754057

Bone, J. (2019). Maria Montessori as domestic goddess: Iconic early childhood educator and material girl. *Gender and Education, 31*(6), 673–687. https://doi.org/10.1080/09540253.2017.1396293

Burns, J. M. (1978). *Leadership*. Harper & Row.

Callahan, S. H. (2013). *Religious leadership: A reference handbook*. SAGE Publications.

Conger, J. A. (1989). *The charismatic leader: Behind the mystique of exceptional leadership*. Jossey-Bass.

Cossentino, J. (2009). Culture, craft, & coherence: The unexpected vitality of Montessori teacher training. *Journal of Teacher Education, 60*(5), 520–527. https://doi.org/10.1177/0022487109344593

Dempster, N., Lizzio, A., Keeffe, M., Skinner, J., & Andrews, D. (2013). The contributions of research design and process facilitation in accessing adolescent views of leadership. *Leading and Managing, 16*(2), 77–89. https://repository.lboro.ac.uk/ndownloader/files/17086685/1

Derungs, I. M. H. (2011). *Trans-cultural leadership for transformation*. Palgrave Macmillan.

Feez, S. (2007). *Montessori's mediation of meaning: A social semiotic perspective* [Doctoral dissertation, University of Sydney]. Sydney Digital Theses. http://hdl.handle.net/2123/1859

Feez, S. (2010). *Montessori and early childhood: A guide for students*. SAGE Publications.

Foschi, R. (2008). Science and culture around Montessori's first "Children's Houses" in Rome (1907–1915). *Journal of the History of the Behavioural Sciences, 44*(3), 238–257. https://doi.org/10.1002/jhbs.20313

Frierson, P. R. (2015). The virtue epistemology of Maria Montessori. *Australasian Journal of Philosophy, 94*(1). https://doi.org/10.1080/00048402.2015.1036895

Giacalone, R. A., & Jurkiewicz, C. L. (Eds.). (2010). *Handbook of workplace spirituality and organisational performance*. M. E. Sharpe.

Gould, D., & Voelker, D. K. (2012). Enhancing youth leadership through sport and physical education. *The Journal of Physical Education, Recreation and Dance, 83*(8), 38–41. https://doi.org/10.1080/07303084.2012.10598828

Grazzini, C. (1997). Cosmic education at the elementary level and the role of the materials. *The NAMTA Journal, 22*(1), 40–63.

Greenleaf, R. K. (1977). *Servant leadership: A journey into the nature of legitimate power and greatness*. Paulist Press.

Gronn, P. (2010). Leadership: Its genealogy, configuration and trajectory. *Journal of Educational Administration and History, 42*(4), 405–435. https://doi.org/10.1080/00220620.2010.492959

Haines, A. (2001). Glossary of Montessori terms. *Communications: Journal of the Association Montessori Internationale, 2-3*, 51–59.

Heifetz, R. (2009). *The practice of adaptive leadership: Tools and tactics for changing your organisation and the world*. Harvard Business Press.

Helfrich, M. S. (2011). *Montessori learning in the 21st century*. New Sage Press.

Julien, M., Wright, B., & McPhee, D. M. (2010). Stories from the circle: Leadership lessons learned from aboriginal leaders. *Leadership Quarterly, 21*(1), 114–126. https://doi.org/0.1016/j.leaqua.2009.10.009

Kahn, D. (1981). Training, the teacher and praxis. *The NAMTA Journal Quarterly, 6*(3), 1–4.

Kahn, D. (2005). Project 2012: History whither bound from childhood to adolescence? *The NAMTA Journal, 30*(1), 140–153.

Kramer, R. (1988). *Maria Montessori: A biography*. Blackwell.

Lillard, A. S. (2005). *Montessori: The science behind the genius*. Oxford University Press.

Lloyd, K. (2008). *An analysis of Maria Montessori's theory of normalization in light of emerging research in self-regulation* [Doctoral dissertation, Oregon State University]. ScholarsArchive. https://search.library.oregonstate.edu/permalink/f/ueodtl/CP71122306270001451

Montessori, M. (1964). *The Montessori Method* (A. E. George, Trans.). Schocken Books. (Original work published 1912)

Montessori, M. (1967). *The discovery of the child* (M. J. Costelloe, Trans.). Ballantine Books. (Original work published 1948)

Montessori, M. (1970). How it all happened: Summary of talk to students January 6, 1942, describing first Casa dei Bambini. *Communications: Journal of the Association Montessori Internationale, 2/3*, 2–7.

Montessori, M. (1989a). *Education for a new world*. Clio Press. (Original work published 1946)

Montessori, M. (1989b). *To educate the human potential*. Clio Press. (Original work published 1948)

Montessori, M. (1991). *The advanced Montessori Method, Vol. 1* (F. Simmonds and L. Hutchinson, Trans.). Clio Press. (Original work published 1918)

Montessori, M. (1992). *Education and peace* (H. R. Lane, Trans.). Clio Press. (Original work published 1949)

Montessori, M. (1994). *From childhood to adolescence*. Clio Press. (Original work published 1948)

Montessori, M. (2004). *The creative development in the child: The Montessori approach, Vol. 1* (R. Ramachandran, Ed.; M. M. Montessori, Trans.). Kalakshetra Press. (Original work published 1994)

Montessori, M. (2007a). *The absorbent mind* (C. A. Claremont, Trans.). Montessori-Pierson. (Original work published 1949)

Montessori, M. (2012). *The 1946 London lectures* (A. Haines, Ed.). Montessori-Pierson.

Montessori, M. M., Jr. (1992). *Education for human development: Understanding Montessori*. Montessori-Pierson.

Mooney, C. G. (2000). *An introduction to Dewey, Montessori, Erikson, Piaget and Vygotsky*. Redleaf Press.

Naumberg, M. (1913, December 13). Maria Montessori: Friend of children. *The Outlook,* 796–799. http://unz.org/Pub/Outlook-1913dec13-00796?View=PDF.

O'Donnell, M. (2013). *Maria Montessori: A critical introduction to key themes and debates*. Bloomsbury Academic.

Oxford University Press. (n.d.). Leadership. In *Lexico.com dictionary*. Retrieved August 17, 2020, from https://www.lexico.com/definition/leadership

Rhode, D. L. (Ed.). (2003). *The difference "difference" makes: Women and leadership.* Stanford University Press.

Schmidt, M., & Schmidt, D. (2009). *Understanding Montessori: A guide for parents.* Dog Ear Publishing.

Standing, E. M. (1998). *Maria Montessori: Her life and work*. Plume. (Original work published 1957)

Tornar, C. (Ed.). (2001). *Montessori bibliografia internazionale/International bibliography 1896–2000* (Dual language ed.). Edizioni Opera Nazionale Montessori.

Tourish, D. (2015). Some announcements, reaffirming the critical ethos of *Leadership*, and what we look for in submissions. *Leadership, 11*(2), 135–141. https://doi.org/10.1177/1742715015577889

Trabalzini, P. (2011). Maria Montessori through the seasons of the "Method." *The NAMTA Journal, 36*(2), i–218.

van Dierendonck, D. (2010). Servant leadership: A review and synthesis. *Journal of Management, 37*(4), 1228–1261. https://doi.org/10.1177/0149206310380462

The Montessori Approach as a Model of Personalized Instruction

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***Keywords**: personalized learning, Montessori approach, models for personalization, strategies for personalization*

Abstract: I present a brief overview of the key elements of personalized learning and Montessori education, a related pedagogical approach, aiming to examine common theoretical principles and key elements. I discuss the common features of personalized instruction and the Montessori approach of education. Both personalized instruction and the Montessori approach stand firmly on a constructivist paradigm and share many philosophical and theoretical principles. Research has shown that Montessori education is one of the most visible models that incorporates numerous aspects of personalized instruction and shares many common elements with personalized learning. This research has shown that, while personalized instruction also suggests many strategies for implementation of the concept, Montessori education actualizes the principles of personalized learning.

The shift from the industrial age to a knowledge-based information age caused a change in desired educational outcomes. The need for problem-solving, innovative, and collaborative individuals led to the emergence of a new discipline in education that links the terms *individualized and personalized instruction, self-directed, active, student-centered, independent*, and *differentiated learning* into a concept of tailored education. Although these terms tend to be too general and with broad implications, some of them are often used synonymously with each other or as a related term. With the aim of clarifying the correlation and to differentiate between their usages, I present the definitions of the frequently used and often overlapping terms from the field of tailored education in Table 1.

Although these terms are frequently used interchangeably because their aim is to achieve the same goal, it is important to update the definition of *personalized learning* and give a brief history to acknowledge its change over the last half century.

Personalized learning has roots in several learning theories, and it has been influenced by many learning strategies. As early as the 17th and 18th centuries, educators like Comenius, Rousseau, Pestalozzi, and Froebel strived to portray knowledge as "dynamic (rather than changeless), education as personal growth, human nature as flexible, and learners as partners in the learning process" (Keefe & Jenkins, 2000, p. 19). Dewey believed schools should be the foundation for democracy. His Laboratory School, founded in 1896, was an attempt to establish a creative environment and test educational theories (Mayhew & Edwards, 1936). The curriculum was organized around occupations that "encourage students to begin what interested them and then to

Table 1
Definitions of Frequently Used and Overlapping Terms From the Field of Tailored Education

Term	Definition	Source
Individualized learning	Instruction in which "the child's characteristics, rather than prescribed academic content, provide the basis for teaching techniques"	Hallahan et al. (2020, p. 10)
	"To effectively individualize instruction, it is necessary to examine the interactions between various learner characteristics and multiple instructional and presentation strategies."	McManus (2000, p. 220)
Self-directed learning	"a process in which individuals take the 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"	Knowles (1975, p. 18)
	"a form of study in which individuals have responsibility for planning, implementing and evaluating their own work"	Iwasiw (1987, p. 222)
	"when students take the initiative for their own learning, diagnosing needs, formulating goals, identifying resources, implementing appropriate activities and evaluating outcomes"	Spencer & Jordan (1999, p. 1281)
	"learning process in which the learner took the responsibility and worked independently on his own in the process of learning"	Williamson (2007), as cited in Dehnad et al. (2014, p. 5185)
Student-centered learning	"The concept of the student's choice in their education; others see it as being about the student's choice in their education; others see it as being about the student doing more than the lecturer (active versus passive learning); while others have a much broader definition which includes both of these concepts but, in addition, describes the shift in the power relationship between the student and the teacher."	O'Neill & McMahon (2005, p. 29)
Active learning	"instructional activities involving students in doing things and thinking about what they are doing"	Bonwell & Eison (1991, p. 3)
	"any instructional method that engages students in the learning process"	Prince (2004, p. 223)
Independent learning	"an educational system in which the learner is autonomous and separated from his teacher by space and time so that communication is by print, electronic or another non-human medium"	Moore (1973, p. 663)
Differentiated learning	"the process of matching learning targets, tasks, activities, resources, and learning support to individual learners' needs, styles, and rates of learning"	Stradling & Saunders (1993, p. 129)
	"philosophy of teaching that is based on the premise that students learn best when their teachers accommodate the differences in their readiness levels, interests and learning profiles"	Tomlinson (2005, p. 263)
	"a pedagogical approach to teaching and learning for students of differing readiness levels, interests, and modes of learning within the same classroom"	Landrum & McDuffie, (2010, p. 9)

progress to more formal academic topics linked to their interests" (Keefe & Jenkins, 200, p. 20). Bloom's theory of mastery learning, promoted in the 1950s and 1960s as an instructional method that "advances students from one topic of study to the next based on their mastery of the current topic," emphasized the importance of students having some control over the pace of their learning (Murphy, 2016, p. ii).

Keller's (1968) Personalized System of Instruction was one of the first attempts to implement personalized instruction in a time-based and standardized system. He outlined the five key features of personalized learning: self-pacing, mastery of material before proceeding to the next material, use of lectures for motivational purposes, importance of the written word, and use of peer mentors.

The NASSP Model Schools Project (1969–1974) enhanced Keller's idea and promoted a change in the school environment—specifying new student and teacher roles, flexible schedules, nongraded assessment, and new learning materials and activities—and defined three modes of learning: group presentation, discussion, and independent study (Keefe & Jenkins, 2000). Although the Model Schools were variously successful in making a difference in the learning of individual students, the project did not affect secondary education as expected in the 1970s and beyond "because of a 'back to basics' backlash at that time and subsequent waves of reform under such mottos as excellence and quality" (Keefe & Jenkins, 2000, p. 24). Five of the most successful schools in the Model Schools Project formed a private nonprofit follow-up as a regional self-help network of schools and districts.

The Learning Environments Consortium International (LEC International), founded in 1974, aimed to assist schools in developing personalized education programs. Keefe's systematic model of personalization for LEC International provided more information about the model employed by the Model Schools Project and specified personalized learning as "a systematic effort on the part of a school to take into account individual student characteristics and effective instructional practices in organizing the learning environment." (Keefe, 2007, p. 219). In the mid-1970s, Carroll's new look at the relationship between general and special education led to the definition of three elements of a personalized approach: actively involved learner, teacher as a learning facilitator, and success-oriented students' program (Keefe, 2007).

The Coalition of Essential Schools was established in 1979 as a result of *A Study of High Schools* (Sizer, 1984). By the mid-1990s, about 250 schools had moved beyond the formative stages and "were playing out their insights into student intellectual development, the meaning of essential knowledge and skills, personalization of teaching and learning, student-as-worker and teacher-as-coach, and demonstration of student mastery by exhibition" (Keefe & Jenkins, 2000, p. 30). In the 1990s, Wang researched the Adaptive Learning Environments Model, "an educational approach that targeted instructional strategies to the needs of each student [that] was particularly responsive to diverse student populations in classrooms" (Murphy, 2016, p. ii), which later became a component of Community for Learning, one of the first comprehensive school reform models validated by the U.S. Department of Education. The projects Braining Ranks I and II (established in 1996 and 2004, respectively) induced American high schools to substantive renewal, guided by six main themes as 13 sets of recommendations, and resulted in an updated definition of personalization as

> *a learning process in which schools help students assess their own talents and aspirations, plan a pathway toward their own purposes, work cooperatively with others on challenging tasks, maintain a record of their explorations, and demonstrate their learning against clear standards in a wide variety of media, all with the close support of adult mentors and guides.* (Keefe, 2007, p. 219)

In 2000, LEC International also updated its personalized education model, focusing specifically on the instructional component. Keefe and Jenkins (2000) defined six basic elements of personalized instruction of two components: cultural (i.e., dual teacher role, diagnosis of student-learning characteristics, school culture of collegiality) and contextual components (i.e., interactive learning environment, flexible scheduling and pacing, authentic assessment).

The Bill & Melinda Gates Foundation (2005) incorporated personalized learning components into its vision for *High Schools for the New Millennium* (2005) and advocated rigor, relevance, and relationship. The U.S. Department of Education's National Educational Technology Plan (Office of Educational Technology,

2010) clarified that personalization is "broader than individualization or differentiation, in that it affords the learner a degree of choice about what is learned, when it is learned, and how it is learned" (Murphy, 2016, p. ii). Later, the U.S. Department of Education funded the Center on Innovations in Learning, founded in 2012; among its charges was to assist state education agencies and districts with personalized learning (Redding, 2016).

Several authors have contributed a description or definition of personalized learning (Keefe & Jenkins, 2000; Murphy et al., 2001). To present a broad view on personalized learning, I present a lean and serviceable definition: "Personalized learning is an instruction that is differentiated and paced to the needs of the learner and shaped by the learning preferences and interests of the learner" (Taylor & Gebre, 2016, p. 205).

Although antecedents of personalization have been known under different names, including "non-graded education, continuous progress education, individualized instruction, individually guided or prescribed education" (Keefe & Jenkins, 2000, p. 37), personalized learning is more systematic in organization, broader in scope, and more authentic in its goals and strategies compared to other related concepts, such as individualized instruction (Houchens et al., 2014).

Theoretical Foundations of Personalized Learning and Montessori Approach

Personalized learning is not itself a theory of learning but "an overarching method to leverage existing learning theories, in conjunction with educators' practical experience and learners' input, to modify aspects of a learning environment to meet learner needs" (Walkington & Bernacki, 2020, p. 240). Personalized learning as a pedagogical philosophy emerged from "several theoretical frameworks and psychological constructs, including goal-orientation theory, self-determination theory, self-regulation, the theory of flow and constructivism" (Houchens et al., 2014, p. 5).

The constructivist paradigm, which shifts the focus from knowledge as a product to knowing as a process (Ültanir, 2012), is a large enough umbrella to accommodate both personalized instruction and Montessori pedagogy. While a variety of definitions of the term "constructivism" have been suggested, they all share the idea that the development of understanding requires an actively engaged learner in making meaning. In personalized learning, "constructivist teachers build instruction on student styles and skills, and encourage students to seek out personal knowledge of a topic" (Keefe & Jenkins, 200, p. 56). Piaget's fundamental idea of constructivism is that the learner must construct knowledge, which applies to both personalized learning and Montessori education. In personalized instruction, "learning requires the active, constructive involvement of the learner" (Patrick et al., 2013, p. 6). Both Jean Piaget (1964) and Maria Montessori (1912/1964) shared the belief that the development of knowledge is a spontaneous and natural process, occurring through action that makes up logical structures that Piaget called *operations* and that Dr. Montessori believed happens through manipulation of an object (Gutek, 2004). Both authors contributed a developmental theory: Dr. Montessori provided a holistic view of the developing human being in her four planes of development (Grazzini, 1996), and Piaget focused on the four stages of cognitive development (Piaget, 1964). Both theories contradict the old idea of linear development and emphasize the idea of development as a transformation but also point out the interdependence of the planes or stages. In Dr. Montessori's theory, the sensitivities of each stage guide the development and determine its rhythm (Grazzini, 1996), but Piaget went further, describing four interrelated factors that can explain development from one stage to another: maturation, experience, social transmission, and equilibrium (Piaget, 1964). These stages match Dr. Montessori's ideas of interaction between nurture and nature, moving from concrete to abstract at the child's own pace, emphasizing the child's cognitive needs, repetitive behavior, self-direction, and the changed role of the teacher (Gutek, 2004). Despite many parallels, the authors did diverge in significant ways; for example, Dr. Montessori was committed to practice and Piaget to theory (Elkind, 1967).

One of the attributes of both personalized learning and Montessori education is *social construction*, which describes how students "build ideas through relationships with others as they theorize and investigate in pursuit of common learning goals" (Kallick & Zmuda, 2017, p. 4). This idea is based on Vygotsky's (1980) social construction of knowledge that describes learning primarily as a social activity, and in which participation in the social life of the school is critical for learning to occur (Patrick et al., 2013, p. 7). Likewise, Lave and Wenger (1991) supported the idea in both Montessori education and personalized learning that learning is a

social process in which knowledge is co-constructed by constant interactions. Dennen and Burner (2008) defined apprenticeship as a "process through which a more experienced person assists a less experienced one by way of demonstration, support and examples" (p. 426).

Vygotsky argued that "the presence of people in the same environment, and the cooperation with peers, induces a reflection and an auto-regulation of one's own behaviour" (De Marsico et al., 2011), which indicates that social learning precedes individual competencies and determines and prepares cognitive development. Vygotsky's (1980) idea of the *zone of proximal development* describes the "distance between the actual developmental level as determined by independent problem-solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1980 p. 86). Learners' goals have to be personalized and meaningful because activities that are within the individual's zone of proximal development will stimulate the greatest intrinsic motivation (Malone & Lepper, 1987). Vygotsky's ideas also support Dr. Montessori's concept of normalization, which describes the occurrence of spontaneous discipline, continual and happy work, and social sentiments of help and sympathy for others (Montessori, 1949/1973). Both Vygotsky and Dr. Montessori emphasized the importance of the scientific approach in pedagogy and agree that instruction can drive the development of the children, but Vygotsky stressed the importance of co-construction and believed nothing that is biologically determined in a child cannot be shaped in a social environment (Bodrova, 2003).

Dewey accentuated the importance of the learner's own experiences, which supports both personalized instruction and Montessori education (Hickman & Alexander, 1998). In Bruner's (1961) concept of *discovery learning*, "practice in discovering for oneself teaches one to acquire information in a way that makes that information more readily viable in problem solving" (p. 26). Furthermore, Bransford et al. (1990) introduced *anchored instruction*, a technology-enhanced learning approach to problem-solving in a goal-based scenario model. However, Collins et al. (1988) introduced the concept of *cognitive apprenticeship*, which emphasizes the purposeful practice of target skills within the functional context of their use (Lim-Dunham et al., 2016) and which, to a certain extent, can be linked to both personalized instruction and the Montessori approach. Cognitive apprenticeship focuses on four dimensions of any learning environment: content, method, sequencing, and sociology. The methods associated with cognitive apprenticeship are modeling, coaching, scaffolding, articulation, reflection, and exploration (Collins et al., 1988). The concept suggests increasing complexity and diversity by focusing on conceptualizing the whole task before focusing on its parts. *Situated learning* describes instruction in which students work on realistic tasks in cooperative communities of practice driven by intrinsic motivation (Collins et al., 1988; Lave & Wenger, 1991).

Bruner (1961) argued the importance of education supporting the development of a student as an autonomous and self-regulated individual. The goal of both Montessori education and personalized learning is to develop self-regulated learners who are able to make independent choices, direct and plan their own learning, and tailor the learning process according to their own needs, interests, and preferences.

Self-determination theory provides an understanding of motivation that "requires a consideration of innate psychological needs for competence, autonomy, and relatedness" (Deci & Ryan, 2000, p. 227). It is defined as a "combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behavior" (Field et al., 1998, p. 2). Casquejo Johnston (2016) argued that Montessori education includes practices and structures that support the intellectual, psychological, and emotional development of children and align with the basic needs defined in self-determination theory. Research indicates that personalized learning interventions with an applied self-determination theory framework enhance "students' learning needs and interests, allowing for more learning control and leading to students' increased interest in learning and understanding the course topics" (Alamri et al., 2020, p. 325).

Goal-orientation theory suggests how students should have their own goals for learning and argues how students' goals mediate the quality of their engagement at school. In Montessori education, goal-setting and -achieving practices are "designed to foster student feelings of control over their education and their ultimate sense of autonomy in place of working for the sake of pleasing a teacher or surpassing peers" (Murray, 2011, p. 6). By focusing on students' mastery goals, personalized instruction highlights students' own progression and development of a new skill (Watson & Watson,

2016). Both personalized learning and Montessori education have much in common with *goal-orientation theory* (Rathunde, 2003), which argues that students should have their own goals for learning. Kaplan and Maehr (2007) stated that the quality of engagement in tasks is higher when "mastery goals are perceived to be emphasized on an achievement context and when students endorse them as an orientation" (p. 170).

Both personalized learning and Montessori education are also linked to *optimal experience theory* and *flow theory* (Csikszentmihalyi & Rathunde, 2014). Flow theory describes the moments when a person is fully connected to a task at hand, relatively oblivious to the passage of time, and clear about what needs to be done from one moment to the next (Rathunde, 2001, p. 14). Shernoff et al. (2003) found that students were more interested in challenging activities that required high skill, and they reported higher levels of concentration and enjoyment upon completing the task.

Key Components of Personalized Instruction

The literature on personalized instruction highlights several interpretations of key components of personalized instruction (Department for Education and Skills, 2004; Keefe & Jenkins, 2000; Murphy et al., 2001). Together, these key elements constitute the culture and context of personalized instruction (Keefe, 2007). Because the emphasis is on a learning paradigm rather than on a teaching paradigm, the teacher's role shifts from teacher as lecturer to facilitator of the process of learning (Keefe & Jenkins, 2000). As subject-matter coaches, consultants, and facilitators, teachers spend less time lecturing and more time demonstrating, giving feedback to students, preparing, and analyzing (Keefe & Jenkins, 2000). Teachers assist learners in setting goals and designing or selecting tasks; they facilitate task performance and learning, help evaluate performance and learning, and mentor learners (Watson & Reigeluth, 2008).

To personalize the learning process, it is crucial to properly diagnose relevant student-learning characteristics. Keefe and Jenkins (2000) proposed the diagnosis of student's developmental characteristics (physical development and maturation, psychological and sociological development), learning styles (cognitive, affective, physiological), and student-learning history. To achieve the desired outcomes, students and teachers have to work together to form a strong school culture of collegiality (Keefe & Jenkins, 2002), which promotes interaction, dialogue, and thoughtful reflection.

The aim of personalized instruction is to create learning communities within a constructivist environment in which students can work together in small groups that encourage collaboration and socialization (Keefe & Jenkins, 2002). Personalized instruction has to form an interactive learning environment with a small group or school size, thoughtful classrooms, active learning experiences, and authentic student achievement (Keefe & Jenkins, 2002).

Flexible scheduling and pacing enable students to engage in meaningful learning activities, make choices in curriculum and instruction, and form an environment in which both teachers and students determine how time is used (Keefe & Jenkins, 2002). Because the focus is on real performance and mastery of a field of knowledge, students are involved in an authentic assessment of the improvement of student learning. To fit the purpose of instruction, different methods and different types of assessment (e.g., naturalistic, performance, portfolio) can be used.

Montessori Pedagogy

The development of Dr. Montessori's Method was significantly influenced by educational pioneers like Quintilian, Comenius, Rousseau, Séguin, Itard, Pestalozzi, and Fröbel (Gutek, 2004). Her successful work with mentally handicapped children provoked her to study education as a general field until 1907, when she was asked to direct a preschool day-care center in the district of San Lorenzo in Rome (P. P. Lillard, 1972). Through observation and experimentation, she noticed that children show their natural interest in learning in a properly prepared environment, and she detected two significant aids to the child's development: sensitive periods and the absorbent mind. During these sensitive periods, a child develops special sensitivities and interests and becomes capable of effectively learning certain matters (Phillips, 1977); children at the absorbent-mind stage absorb sensory impressions and information from their environment (Gutek, 2004). The prepared environment consists of a structured and orderly environment that cultivates sensory sensitivity, independence, and self-assurance with a possibility of choice (Gutek, 2004). Self-correcting didactic materials that promote autoeducation and intrinsic motivation

enable the teacher's role to change from a transmitter of knowledge to a guide or mentor and diagnostician of a child's educational profile (Gutek, 2004). The Montessori Method allows children to move through the curriculum at their own pace in an encouraging atmosphere.

Implemented Principles of Personalized Learning in the Montessori Approach

To highlight the common elements of personalized instruction and the Montessori approach, it is important to describe the different stages of development in the Montessori approach and the adaptation of the instructional methods to different developmental stages of students; for example, the teacher has a different role when working with preschool children than with elementary students and adolescents. To indicate the shared elements of personalized instruction and the Montessori approach, universal principles of the Montessori approach that apply to all stages of student development are described.

Scholars do not agree on the foundational components of personalized learning, with some "focusing first on student-centered pedagogy and others focused on technocentric solutions" (Lokey-Vega & Stephens, 2019, p. 312). Watson and Watson (2016) saw Montessori education as personalized because of the incorporation of student choice, student self-regulation, mastery-learning philosophy, portfolio assessments, and teacher-as-guide approach, despite Montessori schools' strictly limiting technology use (MacDonald, 2016). Keefe and Jenkins (2000) saw Montessori education as one of the strategies for personalizing instruction in which "students learn and apply many unique techniques to construct and apply knowledge and skills" (p. 108).

A Dual Teacher Role

When describing different strategies and tactics for personalizing instruction, Keefe and Jenkins (2000) argued that the Montessori teacher has a dual role, as a facilitator of knowledge who provides advice and as an instructional specialist. In the literature regarding the Montessori approach, the teacher is often referred to as a "directress" who brings the student into contact with appropriate elements of the school environment (Fleege, 1967). The Montessori teacher's role is to observe students, prepare the environment to best serve their developmental needs and interests, and guide them through the process of autoeducation and construction of their own knowledge (Montessori, 1912/1964).

> *Now the adult himself is part of the child's environment; the adult must adjust himself to the child's needs if he is not to be a hindrance to the child and if he is not to substitute himself for the child in the activities essential to growth and development.* (Montessori, 1936/2013, p. 106)

In both personalized instruction and the Montessori approach, the teacher offers demonstration, instruction, and feedback. Both approaches emphasize independence and autoeducation to some extent. Montessori education places far more emphasis on autoeducation, however, while personalized learning endeavors to find the most suitable way for the development and learning of each individual learner, which can differ from one student to another.

The Diagnosis of Relevant Student-Learning Characteristics

Dr. Montessori developed her Method through clinical observation of children, in other words, through diagnosis of a student's learning characteristics (Gutek, 2004), which is one of six basic elements of personalized instruction, as suggested by Keefe and Jenkins (2000). The goal of both personalized instruction and Montessori education is to build a learning environment that best suits the needs, developmental stage, and interests of each student (Keefe & Jenkins, 2002; P. P. Lillard, 1972). Montessori education goes further than personalized learning, though, emphasizing the importance of observation connected not only to students' learning but also to their behavior, well-being, and everything related to their development as a person (P. P. Lillard, 1972). Although Dr. Montessori acknowledged the importance of a comprehensive diagnosis of the student's learning (developmental level, learning traits, physical, psychological and sociological development), she collected most of the information through observation, not through surveys, inventories, or tests (Montessori, 1912/1964). On the other hand, personalized learning emphasizes the importance of different manners of diagnosing the relevant student-learning characteristics (Keefe & Jenkins, 2000). Dr. Montessori's approach to the observation of students is holistic and does not

include determining student-learning profiles; rather, it aims to help every individual student develop in the best way possible (P. P. Lillard, 1972). In contrast with personalized learning that focuses mainly on the academic perspective, Montessori education aims to develop students' democratic sensibilities within classroom activities as well (Williams & Keith, 2000): "Montessori [education] teaches processes for developing and maintaining a sense of integrity, belonging, and general and personal well-being by actively involving children in creating the processes together." (Williams & Keith, 2000, p. 219).

A Culture of Collegiality in the School: A Constructivist Environment and Collaborative Learning Environments

In both Montessori education and personalized instruction, teachers and students work together to develop a constructivist environment best suited to the needs and characteristics of students (Keefe & Jenkins, 2002; P. P. Lillard, 1972). Students are free to make choices in their learning process in an environment that promotes interaction, dialogue, learning by doing, and thoughtful reflection (Keefe & Jenkins, 2002; Montessori, 1912/1964). With all students able to freely choose their work, students are driven by intrinsic motivation (Keefe & Jenkins, 2002; P. P. Lillard, 1972). In both approaches, classroom layout not only suits the physical characteristics of students, but also fosters collaborative learning communities and at the same time enables individual work (Gutek, 2004; Watson & Watson, 2016). Keefe and Jenkins (2002) stated that collaborative learning arrangements in personalized instruction "provide an opportunity for students and teachers to work together to talk about their ideas and to sharpen their thinking" (p. 444). Collaborative learning arrangements are necessary for both personalized learning and Montessori environments because they promote interaction, dialogue, and thoughtful reflection (Keefe & Jenkins, 2002).

An Interactive Learning Environment

To create the best possible learning environment for students, both approaches emphasize the importance of an interactive environment, with thoughtful learning activities that prepare students for real life (Keefe & Jenkins, 2000; Montessori, 2007): "Education should not limit itself to seeking new methods for a mostly arid transmission of knowledge: its aim must be to give the necessary aid to human development." (Montessori, 2007, p. 84) In Montessori education, great emphasis is placed on students' development and learning through their environment using ready-made didactic materials (Gutek, 2004). Montessori teachers prepare the classroom environment, focusing on the common developmental characteristic of the whole group of students, while also considering the possible individual needs of every student. In personalized learning, far more emphasis is placed upon personalizing the whole process of learning to suit the learner's needs, including selecting the most appropriate environment for each individual student.

Personalized learning argues that small group or class size can "better support thoughtful conversation, learning by doing, apprenticeship experiences, and authentic student achievement" (Keefe & Jenkins, 2000, p. 63), which aligns with Montessori classrooms that "employ an open concept in which desks are arranged in 'rafts' to promote individual and small-group learning and are composed of students across a three-year age range" (Lopata et al., 2005, p. 6). Darling-Hammond (1997) reported that

> *small schools (with enrollments of roughly 300 to 600) promote higher student achievement, higher attendance, lower dropout rates, greater participation in school activities, more positive feelings toward self and school, more positive behavior, less violence and vandalism and greater postschool success.* (p. 136)

Montessori education allows far more flexibility in timing and age range (e.g., heterogeneous groups, uninterrupted work time) compared with personalized learning, which is, in the majority of instances, still implemented during traditional timetables and age-based classrooms. Multiage groups in Montessori schools enable that, "as children move through the classroom they are exposed to older and younger peers, facilitating both imitative learning and peer tutoring" (A. S. Lillard, 2016, p. 228).

Active Learning Activities

Personalized learning "encourages curriculum that supports purposeful learning which is similar to Montessori education's focus on student-developed plans of study and project-based learning" (Casquejo

Johnston, 2019, p. 5). Keefe and Jenkins (2002) argued that teachers who are concerned about personalizing the learning process "believe in teaching through genuine experiences and thoughtful reflection" (p. 446). Both personalized learning and the Montessori approach give equal importance to active learning; Montessori education focuses more on "active sensorimotoric activities (feeling, touching, etc.) . . . especially in the kindergarten-age" (van Hout-Wolters et al., 2000, p. 23), and personalized learning focuses on providing real-life learning richness and context in all learning situations (Keefe & Jenkins, 2002).

Flexible Scheduling and Pacing

Flexible and adequate scheduling enables students to focus on performance rather than time and lets them engage in meaningful learning activities (Keefe & Jenkins, 2000). Montessori education supports these activities and stresses the importance of uninterrupted cycles of work:

> *The mind takes some time to develop interest, to be set in motion, to get warmed up into a subject, to attain a state of profitable work. If at this time there is an interruption, not only is a period of profitable work lost, but the interruption, produces an unpleasant sensation which is identical to fatigue.* (Montessori, 1989, p. 135)

The degree of flexibility of a school that incorporates personalized learning depends on the educational philosophy of the school: "If the philosophy is traditional, the schedule is likely to be very structured, even rigid. If the philosophy is constructivist or learner-centered, the schedule will almost necessarily be personalized or at least very flexible" (Keefe & Jenkins, 2002, pp. 446–447).

Assessment

Dr. Montessori argued that children follow a law of maximum effort (i.e., they devote themselves wholly to mastering a task) and are in an environment to improve themselves for the sake of a process, not to achieve an end result (P. P. Lillard, 1972). Rather than assessing student competencies, Montessori teachers observe children's work (A. S. Lillard, 2016). Because most lessons are given individually or in small groups, teachers can delve into a student's level of understanding (Roemer, 1999). With older students (i.e., Secondary school and above), Montessori teachers use traditional assessment practices less frequently than traditional learning arrangements, preferring a combination of alternative assessment policies, such as portfolios and anecdotal and nongraded reports (Roemer, 1999). Although personalized learning stresses that the primary purpose of assessment should be the improvement of student learning, not sorting or grading (Keefe & Jenkins, 2002), far more emphasis is placed on assessment itself. While Montessori teachers generally have negative attitudes toward testing (Haines, 1995), personalized instruction stresses that testing is just one form of assessment. Assessment "goes beyond testing and includes such activities as demonstrations, oral and written presentations, performances, contests, projects, and problem-solving activities" (Keefe & Jenkins, 2002, p. 447), and the method of assessment should always fit the purpose of instruction. In general, Montessori education "downplays the role of high-stakes assessment" (Block, 2015, p. 45), favoring observational assessments to help students develop individual work plans and goals. Compared to Montessori education, some implementations of personalized learning place far more significance on assessments, as well as on agency and student ownership of learning, both of which support independence.

Conclusions

In this paper I have discussed the common features of personalized instruction and the Montessori approach of education. Both personalized instruction and the Montessori approach stand firmly on a constructivist paradigm and share many philosophical and theoretical principles. Research indicates that students attending Montessori schools achieve better academic outcomes compared to other public or charter elementary school education programs (Lillard & Else-Quest, 2006), particularly in mathematics and science (Dohrmann, 2003). A Montessori environment also serves as a better base for the development of executive functions than do traditional arrangements (Diamond & Lee, 2011).

Montessori education is one of the most visible and widespread models to incorporate numerous aspects of personalized instruction (Watson & Reigeluth, 2008), including fostering intrinsic motivation, focusing on students, and actively involving students. My research has shown this, although personalized instruction suggests many strategies for implementation and differs from the Montessori approach in several ways, as described

previously. Montessori education stands firmly as an actualization of the many principles of personalized learning.

Further research could examine which principles of personalized instruction are not well incorporated in the Montessori model and explore how to implement some of the key principles and strategies of personalized learning in a Montessori approach, especially for older students (i.e., adolescents).

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References

Alamri, H., Lowell, V., Watson, W., & Watson, S. L. (2020). Using personalized learning as an instructional approach to motivate learners in online higher education: Learner self-determination and intrinsic motivation. *Journal of Research on Technology in Education, 52*(3), 322–352. https://doi.org/10.1080/15391523.2020.1728449

Bill & Melinda Gates Foundation. (2005). *High schools for the new millennium: Imagine the possibilities.* https://docs.gatesfoundation.org/Documents/EdWhitePaper.pdf

Block, C. R. (2015). Examining a public Montessori school's response to the pressures of high-stakes accountability. *Journal of Montessori Research, 1*(1), 42–54. https://doi.org/10.17161/jomr.v1i1.4913

Bodrova, E. (2003). Vygotsky and Montessori: One dream, two visions. *Montessori Life, 15*(1), 30–32. Research Gate. https://www.researchgate.net/profile/Elena_Bodrova/publication/234745030_Vygotsky_and_Montessori_One_Dream_Two_Visions/links/552c0fd60cf29b22c9c3ffdd.pdf

Bonwell, C. C., & Eison, J. A. (1991). *Active learning: Creating excitement in the classroom* (ED336049). ERIC. https://files.eric.ed.gov/fulltext/ED336049.pdf

Bransford, J. D., Sherwood, R. D., Hasselbring, T. S., Kinzer, C. K., & Williams, S. M. (1990). Anchored instruction: Why we need it and how technology can help. In D. Nix & R. J. Spiro (Eds.), *Cognition, education, and multimedia: Exploring ideas in high technology* (pp. 115–141). Lawrence Erlbaum Associates, Inc.

Bruner, J. S. (1961). The act of discovery. *Harvard Educational Review, 31*, 21–32.

Casquejo Johnston, L. M. (2016). Examining Montessori middle school through a self-determination theory lens: A study of the lived experiences of adolescents. *Journal of Montessori Research, 2*(1), 27–42. https://doi.org/10.17161/jomr.v2i1.4994

Casquejo Johnston, L. M. (2019). Montessori middle school: The Erdkinder. *Middle Grades Review, 5*(3), Article 4. https://scholarworks.uvm.edu/mgreview/vol5/iss3/4

Collins, A., Brown, J. S., & Newman, S. E. (1988). Cognitive apprenticeship: Teaching the craft of reading, writing and mathematics. *Thinking: The Journal of Philosophy for Children, 8*(1), 2–10. https://doi.org/10.5840/thinking19888129

Csikszentmihalyi, M., & Rathunde, K. (2014). The development of the person: An experiential perspective on the ontogenesis of psychological complexity. In M. Csikszentmihalyi (Ed.), *Applications of flow in human development and education: The collected works of Mihaly Csikszentmihalyi* (pp. 7–79). Springer.

Darling-Hammond, L. (1997). *The right to learn: A blueprint for creating schools that work.* Jossey-Bass.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

Dehnad, A., Afsharian, F., Hosseini, F., Arabshahi, S. K. S., & Bigdeli, S. (2014). Pursuing a definition of self-directed learning in literature from 2000–2012. *Procedia—Social and Behavioral Sciences, 116*, 5184–5187. https://doi.org/10.1016/j.sbspro.2014.01.1097

De Marsico, M., Sterbini, A., & Temperini, M. (2011). The zone of proximal development between adaptive learning and reputation-based group activities. *Proceedings of the 17th International Conference on Distributed Multimedia Systems, Florence, Italy.* https://pdfs.semanticscholar. org/2cb0/54f1a08982ef70c0594ec5fdb4200daa505c.pdf

Dennen, V. P., & Burner, K. J. (2008). The cognitive apprenticeship model in educational practice. In J. M.

Spector, M. D. Merrill, J. van Merriënboer, & M. P. Driscoll (Eds.), *Handbook of research on educational communications and technology* (pp. 425–439). Routledge.

Department for Education and Skills. (2004). *A national conversation about personalised learning*. Department for Children, Schools and Families and the Department for Innovation, Universities and Skills. https://dera.ioe.ac.uk/5932/1/personalisedlearning.pdf

Diamond, A., & Lee, K. (2011). Interventions shown to aid executive function development in children 4 to 12 years old. *Science, 333*(6045), 959–964. https://doi.org/10.1126/science.1204529

Dohrmann, K. R. (2003). *Outcomes for students in a Montessori program: A longitudinal study of the experience in the Milwaukee Public Schools*. Association Montessori Internationale / USA. https://www.public-montessori.org/wp-content/uploads/2016/10/Outcomes_Milwaukee%20b.pdf

Elkind, D. (1967). Piaget and Montessori. *Harvard Educational Review, 37*(4), 535–545. https://doi.org/10.17763/haer.37.4.n60v725054564376

Field, S., Martin, J., Miller, R., Ward, M., & Wehmeyer, M. (1998). *A practical guide to teaching self-determination*. Council for Exceptional Children.

Fleege, U. H. (1967). *Montessori pre-school education: Final report* (ED017320). ERIC; De Paul University. https://files.eric.ed.gov/fulltext/ED017320.pdf

Grazzini, C. (1996). The four planes of development. *NAMTA Journal, 21*(2), 27–61. http://keysoftheuniverse.com/4planesofdevelopment.pdf

Gutek, G. L. (2004). *The Montessori Method: The origins of an educational innovation: Including an abridged and annotated edition of Maria Montessori's The Montessori Method*. Rowman & Littlefield.

Haines, A. M. (1995). Montessori and assessment: Some issues of assessment and curriculum reform. *NAMTA Journal, 20*(2), 116–130.

Hallahan, D. P., Pullen, P. C., Kauffman, J. M., & Badar, J. (2020). Exceptional learners. In G. W. Noblit (Ed.), *Oxford research encyclopedia of education*. https://doi.org/10.1093/acrefore/9780190264093.013.926

Hickman, L. A., & Alexander, T. M. (1998). *The essential Dewey: Pragmatism, education, democracy (Vol. 1)*. Indiana University Press.

Houchens, G. W., Crossbourne, T.-A., Zhang, J., Norman, A. D., Chon, K., Fisher, L., & Schraeder, M. (2014, November 5–7). *Personalized learning: A theoretical review and implications for assessing kid-FRIENDLy student outcomes*. Paper presented at the annual meeting of the Mid-South Educational Research Association, Knoxville, TN, United States. https://www.wku.edu/rocksolid/documents/personalized_learning_a_theoretical_review_and_implications_for_assessing_kidfriendly_student_outcomes_houchens_et_al_2014.pdf

Iwasiw, C. L. (1987). The role of the teacher in self-directed learning. *Nurse Education Today, 7*(5), 222–227. https://doi.org/10.1016/0260-6917(87)90005-0

Kallick, B., & Zmuda, A. (2017). *Students at the center: Personalized learning with habits of mind*. ASCD.

Kaplan, A., & Maehr, M. L. (2007). The contributions and prospects of goal orientation theory. *Educational Psychology Review, 19*(2), 141–184. https://doi.org/10.1007/s10648-006-9012-5

Keefe, J. W. (2007). What is personalization? *Phi Delta Kappan, 89*(3), 217–223. https://doi.org/10.1177/003172170708900312

Keefe, J. W., & Jenkins, J. M. (2000). *Personalized instruction: Changing classroom practice*. Eye on Education.

Keefe, J. W., & Jenkins, J. M. (2002). A special section on personalized instruction. *Phi Delta Kappan, 83*(6), 440–448. https://doi.org/10.1177/003172170208300609

Keller, F. S. (1968). "Good-bye, teacher…" *Journal of Applied Behavior Analysis, 1*(1), 79–89. https://doi.org/10.1901/jaba.1968.1-79

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

Landrum, T. J., & McDuffie, K. A. (2010). Learning styles in the age of differentiated instruction. *Exceptionality, 18*(1), 6–17. https://doi.org/10.1080/09362830903462441

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press

Lillard, A., & Else-Quest, N. (2006). The early years: Evaluating Montessori education. *Science, 313*(5795), 1893–1894. https://doi.org/10.1126/science.1132362

Lillard, A. S. (2016). *Montessori: The science behind the genius.* Oxford University Press

Lillard, P. P. (1988). *Montessori: A modern approach*. Schocken Books.

Lim-Dunham, J. E., Ensminger, D. C., McNulty, J. A., Hoyt, A. E., & Chandrasekhar, A. J. (2016). A vertically integrated online radiology curriculum developed as a cognitive apprenticeship: Impact on student performance and learning. *Academic Radiology*, *23*(2), 252–261. https://doi.org/10.1016/j.acra.2015.09.018

Lokey-Vega, A., & Stephens, S. (2019). A batch of one: A theoretical framework for the personalized learning movement. *Journal of Online Learning Research*, *5*(3), 311–330. http://editlib.org/p/210639

Lopata, C., Wallace, N. V., & Finn, K. V. (2005). Comparison of academic achievement between Montessori and traditional education programs. *Journal of Research in Childhood Education*, *20*(1), 5–13. https://doi.org/10.1080/02568540509594546

MacDonald, G. (2016). Technology in the Montessori classroom: Benefits, hazards and preparation for life (EJ1112230). ERIC. *NAMTA Journal*, *41*(2), 99–107. https://files.eric.ed.gov/fulltext/EJ1112230.pdf

Malone, T. W., & Lepper, M. R. (1987). Making learning fun: A taxonomy of intrinsic motivations for learning. In R. E. Snow & M. J. Farr (Eds.), *Aptitude, learning, and instruction: Cognitive and affective process analyses* (Vol. 3, pp. 223–253). Erlbaum.

Mayhew, K. C., & Edwards, A. C. (1936). *The Dewey School: The laboratory of the University of Chicago, 1896–1903*. D. Appleton-Century.

McManus, T. F. (2000). Individualizing instruction in a web-based hypermedia learning environment: Nonlinearity, advance organizers, and self-regulated learners. *Journal of Interactive Learning Research*, *11*(2), 219–251. https://www.learntechlib.org/primary/p/8486/

Montessori, M. (1964). *The Montessori Method* (A. E. George, Trans.). Schocken Books. (Original work published 1912)

Montessori, M. (1973). *The absorbent mind* (C. A. Claremont, Trans.). Holt, Rinehart and Winston. (Original work published 1949)

Montessori, M. (1989). *What you should know about your child*. Clio.

Montessori, M. (2007). *From childhood to adolescence* (H. R. Lane, Trans.). Montessori-Pierson.

Montessori, M. (2013). *The secret of childhood*. Aakar Books. (Original work published 1936)

Moore, M. G. (1973). Toward a theory of independent learning and teaching. *The Journal of Higher Education*, *44*(9), 661–679. https://doi.org/10.1080/00221546.1973.11776906

Murphy, J., Beck, L. G., Crawford, M., Hodges, A., & McGaughy, C. L. (2001). *The productive high school: Creating personalized academic communities*. Corwin Press.

Murphy, M. (2016). Foreword. In M. Murphy, S. Redding, & J. S. Twyman (Eds.), *Handbook on personalized learning for states, districts, and schools* (pp. i–vi). Center on Innovations for Learning, Information Age Publishing.

Murray, A. (2011). Montessori elementary philosophy reflects current motivation theories. *Montessori Life*, *23*(1), 22–33.

Office of Educational Technology. (2010). *Transforming American education: Learning powered by technology*: *National Education Technology Plan 2010.* U.S. Department of Education. https://www.ed.gov/sites/default/files/netp2010.pdf

O'Neill, G., & McMahon, T. (2005). Student-centred learning: What does it mean for students and lecturers? In G. O'Neill, S. Moore, & B. McMullin (Eds.), *Emerging issues in the practice of university learning and teaching* (pp. 27–36). All Ireland Society for Higher Education (AISHE). http://eprints.teachingandlearning.ie/2917/1/McCarthy%20and%20Higgs%202005.pdf

Patrick, S., Kennedy, K., & Powell, A. (2013). *Mean what you say: Defining and integrating personalized, blended and competency education*. International Association for K–12 Online Learning. https://aurora-institute.org/wp-content/uploads/mean-what-you-say-1.pdf

Phillips, S. (1977). Maria Montessori and contemporary cognitive psychology. *British Journal of Teacher Education*, *3*(1), 55–68. https://doi.org/10.1080/0260747770030106

Piaget, J. (1964). Part I: Cognitive development in children: Piaget: Development and learning. *Journal of Research in Science Teaching*, *2*(3), 176–186. https://doi.org/10.1002/tea.3660020306

Prince, M. (2004). Does active learning work? A review of the research. *Journal of Engineering Education*, *93*(3), 223–231. https://doi.org/10.1002/j.2168-9830.2004.tb00809.x

Rathunde, K. (2001). Montessori education and optimal experience: A framework for new research. *NAMTA Journal*, *26*(1), 11–43.

Rathunde, K. (2003). A comparison of Montessori and traditional middle schools: Motivation, quality of experience, and social context. *NAMTA Journal, 28*(3), 13–52. https://www.public-montessori.org/wp-content/uploads/2016/10/Rathunde_Comparison%20of%20Montessori%20and%20Traditional%20MiddleSchools-small.pdf

Redding, S. (2016). Competencies and personalized learning. In M. Murphy, S. Redding, & J. S. Twyman (Eds.), *Handbook on personalized learning for states, districts, and schools* (pp. 3–18). Center on Innovations for Learning, Information Age Publishing.

Roemer, K. L. (1999). *Assessment practices used by Montessori teachers of kindergarten through sixth grade students in the United States* [Doctoral dissertation, University of Memphis].

Shernoff, D. J., Csikszentmihalyi, M., Shneider, B., & Shernoff, E. S. (2003). Student engagement in high school classrooms from the perspective of flow theory. *School Psychology Quarterly, 18*(2), *158*–176. https://doi.org/10.1521/scpq.18.2.158.21860

Sizer, T. R., & National Association of Secondary School Principals. (1984). *A study of high schools: A report of "Horace's compromise."* National Association of Secondary School Principals.

Spencer, J. A., & Jordan, K. R. (1999). Learner centred approaches in medical education. *British Medical Journal*, 318, 1280–1283. https://doi.org/10.1136/bmj.318.7193.1280

Stradling, B., & Saunders, L. (1993). Differentiation in practice: Responding to the needs of all pupils. *Educational Research, 35*(2), 127–137. https://doi.org/10.1080/0013188930350202

Taylor, R. D., & Gebre, A. (2016). Teacher–student relationships and personalized learning: Implications of person and contextual variables. In M. Murphy, S. Redding, & J. S. Twyman (Eds.), *Handbook on personalized learning for states, districts, and schools* (pp. 205–220). Center on Innovations for Learning, Information Age Publishing.

Tomlinson, C. A. (2005). Grading and differentiation: Paradox or good practice? *Theory Into Practice, 44*(3), 262–269. https://doi.org/10.1207/s15430421tip4403_11

Ültanir, E. (2012). An epistemological glance at the constructivist approach: Constructivist learning in Dewey, Piaget, and Montessori (ED533786). ERIC. *International Journal of Instruction, 5*(2), 195–212. https://files.eric.ed.gov/fulltext/ED533786.pdf

van Hout-Wolters, B., Simons, R.-J., & Volet, S. (2000). Active learning: Self-directed learning and independent work. In R. J. Simons, J. van der Linden, & T. Duffy (Eds.) *New learning* (pp. 21–36). Springer.

Vygotsky, L. S. (1980). *Mind in society: The development of higher psychological processes*. Harvard University Press

Walkington, C., & Bernacki, M. L. (2020). Appraising research on personalized learning: Definitions, theoretical alignment, advancements, and future directions. *Journal of Research on Technology in Education, 52*(3), 235–252. https://doi.org/10.1080/15391523.2020.1747757

Watson, S. L., & Reigeluth, C. M. (2008). The learner-centered paradigm of education. *Educational Technology, 48*(5), 42–48. www.jstor.org/stable/44429608

Watson, W. R., & Watson, S. L. (2016). Principles for personalized instruction. In C. M. Reigeluth, B. J. Beatty, & R. D. Myers (Eds.), *Instructional-design theories and models, Vol. IV* (pp. 109–136). Routledge.

Williams, N., & Keith, R. (2000). Democracy and Montessori education. *Peace Review, 12*(2), 217–222. https://doi.org/10.1080/10402650050057861

Montessori Middle School and the Transition to High School: Student Narratives

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Keywords: Montessori middle school, transition to high school, experiential learning, social-emotional

Abstract: This narrative study investigated through storytelling the experiences of five students who attended a Montessori middle school and then transitioned to a public high school. The testimonies of the participants highlighted that, to help students make a successful transition to high school, it is useful to consider three elements: (a) developing academic and social-emotional skills, (b) fostering positive attitudes toward learning, and (c) creating opportunities to practice self-reliance, self-advocacy, and grit. The experience of these particular students accentuates the ability of a Montessori middle school to emphasize both academic rigor and the social-emotional skills that build the fortitude necessary for students to successfully transition to high school. This study suggests that Montessori middle school practices may foster the intellectual and emotional growth of students so that they can successfully transition to high school and are potentially buffered from many of the detrimental academic and emotional impacts of ninth grade.

Middle school education is a critical time for supporting the developmental needs of adolescents. Supporting the development of the whole child is reflected in both the middle school concept and the educational philosophy of Maria Montessori. The emergence in the 1960s and 1970s of the middle school movement featured an emphasis on individualized instruction, team teaching, and interdisciplinary planning (Schaefer et al., 2016). Other essential components of middle school education include exploratory learning, recognizing the diverse needs of adolescents, promoting student engagement, moral education, and cooperative learning (Schaefer et al., 2016). By the 1980s, middle-level education was a national movement characterized by a developmentally responsive curriculum that sought to engage students in considering their feelings and choices and the consequences of their actions on themselves and others (Schaefer et al., 2016). The middle school movement flourished in the 1990s, and research supported middle school values such as critical thinking, literacy, collaborative learning, character development, and a responsive curriculum (Schaefer et al., 2016).

The middle school concept, particularly its preferred teaching practices, has been unraveling, however, because of a focus on standardized test scores (STS; Robinson, 2017). In 2001, the middle school movement came under siege by pressures from No Child Left Behind (2002), which focused on measurable outcomes such

as STS (Schaefer et al., 2016), and later by the Every Student Succeeds Act (2015). Middle school teaching practices have shifted away from meeting the cognitive and noncognitive needs of their students toward teaching practices that are primarily driven by test content. Middle schools tend to myopically focus on STS, dismissing the overall well-being of the adolescent child in favor of his or her ability to perform on a test.

This research study was conducted with students who attended a private Montessori middle school to better understand the impact that experiential learning, in stark contrast to a focus on STS, could have on the transition to high school (referred to in this study simply as the "Transition"). Students show a consistent decline in grades from middle school to high school (Barber & Olsen, 2004; Benner & Graham, 2009), as well as a decline on achievement test scores across core-content areas (Allensworth et al., 2014). Not only are freshmen contending with physical, emotional, and pubertal changes, there are additional factors: longstanding relationships with teachers and peers are disrupted; high schools tend to be larger, more impersonal, and competitive; and students typically experience greater autonomy from their parents (Cohen & Smerdon, 2009). More students fail ninth grade than any other grade (National High School Center, 2007), and promotion rates between ninth and tenth grades are significantly lower than rates between any other grades (Wheelock & Miao, 2005). The Transition also poses challenges for the social-emotional well-being of students. Research indicates that during the Transition, adolescents experience greater anxiety, feelings of loneliness, and depression as they attempt to adapt to high school (De Wit et al., 2011). The developmental responsiveness of the school environment is a critical component in the relative level of support students receive as they make the Transition.

Literature

Montessori middle schools seek to provide a learning culture that integrates cognitive development with the social-emotional well-being of the child—in short, a learning experience that embodies the middle school concept.

The middle school concept is a conceptual framework with the following characteristics: interdisciplinary teams of teachers who share students and planning time, a focus on the needs of the whole child beyond the academic, an exploratory program with features that develop the health and wellness of the child, active learning instructional methodologies, and shared decision-making among parents and the community (Chen et al., 2012; Edwards et al., 2014; Manning, 2000; Watts et al., 2013).

The middle school concept promotes learner-centered education and has its roots in progressivism education philosophy, which holds that it is the educator's responsibility to focus on the needs of adolescents, draw out their inherent capabilities, and inspire their growth by utilizing the best pedagogical methodology (Chen et al., 2012; Edwards et al., 2014). Active learning that is peer- and group-oriented and that involves gaining new knowledge through problem-solving, inquiry, experiential learning, interdisciplinary projects, and group process activities is favored (Chen et al., 2012; Edwards et al., 2014; Manning, 2000; Watts et al., 2013). Montessori middle school classrooms embrace and incorporate these practices.

Middle School Practices Meet Cognitive and Social-Emotional Needs

Research demonstrates that cognitive and social-emotional skills develop together (Sibley et al., 2017). In both *The Exemplary Middle School* (George & Alexander, 2003), as cited in Watts et al. (2013), and *This We Believe* (National Middle School Association, 2003), also cited in Watts et al. (2013), the vision for the middle school concept is articulated, including the instructional teaching practices described in Table 1.

Table 1 identifies some of the essential teaching practices that the middle school concept promotes to meet cognitive and social-emotional needs. Educational teaching practices used in Montessori middle school classrooms, such as project-based learning, problem-based learning, and exploratory learning, align with the middle school concept. Research on project-based learning and problem-based learning has found that teachers who use interdisciplinary approaches to instruction tend to more fully engage their students, create more positive classroom environments, and develop closer relationships with their students (Netcoh & Bishop, 2017). Additionally, Doda and George (1999) discussed acquisition of knowledge that is enhanced

Table 1

Characteristics and Teaching Practices Compared

Characteristics from *The Exemplary Middle School* (George & Alexander, 2003), as cited in Watts et al. (2013)	Characteristics from *This We Believe* (National Middle School Association, 2003), as cited in Watts et al. (2013)
Curriculum Curricula that integrate multiple academic disciplines Articulation of middle-level curricula with high school curricula and expectations Exploratory/encore courses in the arts, athletics, or careers Emphasis on students' social and emotional growth Concern for students' health, wellness, and safety Shared responsibility for students' literacy and numeracy skills Instructing and advising Teachers specifically interested/trained in working with young adolescents Professional development explicitly focused on the middle school Interdisciplinary teams of teachers having common planning time One or more guidance counselors working intensively with students Assessment that makes use of real-world tasks Flexible scheduling that may span the school day, week, or year Heterogeneous and/or multiage student-grouping arrangements Governance Participatory and inclusive decision-making processes Parental involvement in student learning parental and community involvement in school governance	Curriculum, instruction, and assessment Educators value young adolescents and are prepared to teach them. Students and teachers are engaged in active, purposeful learning. Curriculum is challenging, exploratory, integrative, and relevant. Educators use multiple learning and teaching approaches. Varied and ongoing assessments advance learning as well as measure it. Leadership and organization A shared vision developed by all stakeholders guides every decision. Leaders are committed to and knowledgeable about this age group, educational research, and best practices. Leaders demonstrate courage and collaboration. Ongoing professional development reflects best educational practices. Organizational structures foster purposeful learning and meaningful relationships. Culture and community The school environment is inviting, safe, inclusive, and supportive of all. Every student's academic and personal development is guided by an adult advocate. Comprehensive guidance and support services meet the needs of young adolescents. Health and wellness are supported in curricula, school-wide programs, and related policies. The school actively involves families in the education of their children. The school includes community and business partners.

by engaging learners in both kinesthetic activity and exploratory learning that includes problem-solving, brainstorming, and decision-making.

An emphasis on social-emotional learning (SEL) and respect for the whole child may be considered an extension of both the middle school concept generally and the Montessori approach, in that they both address the overall health and well-being of the adolescent. SEL is particularly important at the middle level because of the developmental needs of the whole adolescent child. SEL has been shown to improve academic learning, increase motivation and perseverance, decrease anxiety and stress, and improve student behavior (Aidman & Price, 2018). According to the American Montessori Society (n.d.), an authentic Montessori middle school classroom is characterized by a student-centered approach that encourages students to develop their independent self-management, exercise choice, and practice self-regulation. Table 2 shows the major components of a Montessori Secondary education environment, as described by the American Montessori Society (n.d.).

At their essence, Montessori middle school programs give adolescents opportunities to experience self-worth through important work that addresses their need for creativity, problem-solving, and independence (American Montessori Society, 2020).

Impact of Standardized Testing on Middle Schools

Placing mastery of content on STS as the sole or predominant means of assessment detrimentally affects students and middle school teaching practices in the areas of instruction, curriculum, subject matter, and student groupings (Chen et al., 2012). In fact, STS is the most significant hurdle preventing the adoption of experiential learning pedagogies (Scogin et al., 2017). Research reveals a trend away from middle school best practices, and their attention to the needs of learners, toward meeting the demands of the test instead (Musoleno & White, 2010). Public Montessori schools also face the pressures of high-stakes testing; however, by nature and practice, Montessori philosophy is not well aligned with state achievement tests (Chattin-McNichols, 2016). The uneven profile of a child is expected and welcomed in Montessori classrooms, but it is problematic in an STS environment (Chattin-McNichols, 2016).

Middle School to High School Transition

Research indicates that the Transition can significantly affect students' academic performance and social-emotional well-being. Neild (2009) suggested that the organization of the high school itself is a major source of students' difficulties in their ability to successfully complete the Transition. Each class brings a different teacher and different peer group, so that students are left feeling anonymous and alienated; no single teacher knows how the student is doing overall, either academically or socially (Neild, 2009). An additional structural challenge during the Transition is that students break social bonds with teachers and peers from middle school at the same time they need to negotiate new social relationships, adapt to new school practices, and learn new school routines (Neild, 2009). Felmlee et al. (2018) articulated that physically transitioning into a new building for high school affects adolescent friendship networks, which in turn affects their ability to make a successful Transition. Students who made this physical transition had fewer friends, were more likely to become isolated, and had significantly lower odds of obtaining high grades; these outcomes persisted throughout high school (Felmlee et al., 2018).

Ninth grade is a key educational year, and efforts to decrease the dropout rate ought to focus on the critical Transition (Neild et al., 2008). Students' lack of preparation may be caused in part by a lack of communication between eighth- and ninth-grade teachers concerning their students' academic, social, and organizational issues (McCallumore & Sparapani, 2010). Middle school educators can help provide continuity during the Transition by sharing both insights about the developmental needs of incoming ninth graders and successful strategies to best support those students (Ellerbrock & Kiefer, 2014). Collaborating with ninth-grade teachers, much in the way that middle school teachers collaborate with each other, can immensely benefit students because they will start ninth grade with their teachers better understanding their needs.

Method

The intention of this narrative study is to share the participants' Montessori middle school experiences so that others may understand how those experiences

Table 2

Characteristics of Montessori Secondary Environment

Multiage groupings	Uninterrupted work periods	Spiral curriculum	What adolescents learn	Additional components
Students are commonly grouped in 2- or 3-year age cohorts. A middle school may offer grades 7 and 8. These communities allow opportunities for collaborative work and student leadership through: • regularly scheduled, student-led community meetings • activities, such as in inquiry-based problem-solving and applied scientific method, that encourage diversity of perspectives, thoughts, and learning styles • compassionate and respectful relationships and an appreciation of differences	The daily schedule allows for uninterrupted work periods of 2 hours or more in core curricular subjects. Uninterrupted work periods honor student choice, foster concentration, and support student engagement, while allowing for deep inquiry and a chance to work in collaborative project teams.	A *spiral curriculum* exposes students to many interrelated topics repeatedly over time, resulting in broad and deep knowledge. Students are academically challenged and given reasonable opportunities for pacing work to meet their needs, while also learning responsibility, meeting deadlines, and mastering skills and concepts with the support and guidance of master teachers.	Montessori Secondary programs are rooted in hands-on, experential learning that includes: • advanced courses in language arts, mathematics, sciences, and social studies that are academically challenging • specialized courses including world languages, visual and performing arts, health and fitness, and participate in field studies (such as apprenticeships) and service learning Montessori philosophy acknowledges the need of the adolescent to serve others, so service is taught as a way to care for the school community and the world outside the school. Secondary students complete complex projects—a culmination of learning—that include research and presentation and illustrate their mastery of concepts.	A community within the classroom that allows opportunities to participate in classroom government and other leadership experiences Experiences in nature that cultivate respect for the environment Microeconomic experiences, such as developing and running a business, to promote a genuine understanding of currency Responsible and ethical use of technology, with the majority of the school day spent in learning activities and practices that require peer-to-peer and student-teacher interaction Manageable homework load and absence of high-stakes testing

affected their Transitions. This was accomplished by the students reflecting, sharing, and storytelling with me, the researcher. By using an interpretivist paradigm, my purpose as a researcher was to describe, understand, and interpret the experiences of the participants together (Merriam & Tisdale, 2015, p. 12). The meaning of the participants' respective middle school experience was varied, multiple, and complex (Creswell & Poth, 2018, p. 24). From the interviews with the participants, I inductively generated a theory or pattern of meaning formed through the participants' views of the situation and their interactions with me (Creswell & Poth, 2018, p. 24). Through broad interview questions that initiated discussion and reflection, I sought to thoroughly and accurately document the perspective and make sense of the experience of participants who made the Transition from a Montessori middle school.

Participants

The site of the study was a private, pre-K–8 Montessori school in a suburb outside a large city in the northeastern United States, which will be referred to as Rose Hill School. The participants in the study were five former students of the middle school who transitioned to a public high school and are currently in either their senior year of high school or their freshman year of college. Because all participants came from the same private school in a predominantly White community, there was minimal diversity in terms of socioeconomic status and race; however, other identities, such as gender, sexuality, religion, and parents' marital status, may affect each participant's experience of the Transition. I knew all the participants before the study, as they were former students whom I taught for 2 years as their seventh- and eighth-grade English and history teacher. Each narrative was gathered in a one-on-one interview. Pseudonyms have been assigned to each participant and to the Montessori school itself to preserve anonymity and confidentiality.

Data Analysis

Initially, I reviewed each interview to get an overall sense of the participants' experiences. Next, with the research questions in mind, I formulated codes to reveal patterns and themes from the interview itself. I was cognizant to code in such a way that the participants' words, perceptions, and opinions were paramount in the analysis. As Creswell and Poth (2018) suggested, it was essential that my bias for Montessori education not prejudice my analysis of the interviews. I particularly needed to be mindful not to insert my opinions and make sure that the voices of my participants were upheld throughout the process. As I coded, I wrote analytic memos to reflect on the interviews and the themes that emerged. Engaging in reflexivity about perspectives by writing analytic memos throughout the analysis process was a helpful validation strategy (Creswell & Poth, 2018).

Miles et al. (2014) advised two cycles of coding to derive patterns and explain the meaning of the data collected by assembling it into analyzable units. A second code is useful to add detail, enrich the meaning of the first code, and identify particular qualities that may emerge (Miles et al., 2014). As suggested by Miles et al. (2014), I employed a mix-and-match method that used descriptive, in vivo, and process coding to help organize, classify, and categorize the information. Specifically, I looked for repetitions in phrasing or content, categories explicitly offered by the participants, analogies or metaphors used, similarities and differences in their responses, and their reactions to questions. When comparing within a single interview, a researcher must examine the consistency of the interview as a whole by analyzing multiple references to the same code, repetition about categories, new information about categories, comments that are similar or different, and the context of comments (Boeije, 2002).

Limitations of the Study

Conducting a narrative study presents several limitations that are intrinsic to the nature of this research. First, because the study focused on the stories of five students from a predominantly White and wealthy socioeconomic class, no attempt can be made to generalize the results and project them onto larger populations. Although the participants collectively lacked racial and socioeconomic diversity, each of their stories was unique and shared a perspective not present in the current literature. Additionally, some participants had attended the Montessori school since first grade, while others entered in seventh grade, which could have influenced their experience in Transition. Their stories simply reflect their own experiences of attending a

Montessori middle school and transitioning to a public high school.

Another limitation of this study that may be both a liability and an enabling factor is that I conducted all the interviews with the participants. Because I taught each of the participants for 2 years, students opened up more fully about their experiences and perhaps more easily than with someone they did not know. However, students may have been hesitant to fully disclose everything, knowing that I have relationships with the people in their narratives. The few times this issue came up, students seemed comfortable sharing when I assured them that people whom they were discussing would also remain confidential. My unique relationship with the participants did not prevent them from addressing their negative experiences, painful memories, or unfavorable outcomes.

Findings

Rose Hill School is a Montessori school that serves students from 18 months old through grade 8. The middle school comprises grades 7 and 8 and in many ways prepares students to transition from a traditional Montessori school to a traditional high school. According to authentic Montessori middle school practices, the students are expected to engage in exploratory learning, take risks, reach new levels of achievement, and become confident, self-motivated learners. Additionally, the middle school is founded on the belief that children are naturally curious and eager to learn. Its core values are respect for the development of the whole child; deep learning that happens within a collaborative community built upon mutual respect; and engaging students in purposeful work so that they become self-disciplined, self-assured learners. Rose Hill diverges from authentic Montessori middle school practices in that students do not have uninterrupted work periods of 2 hours or more in the core curricular subjects. Rose Hill core classes are primarily in 45-minute blocks, although occasionally there are opportunities for deeper exploration for longer periods. Additionally, advanced courses are offered only in math; however, opportunities for extension are integrated into each core subject. Rose Hill embraces Montessori middle school practices in that the curriculum emphasizes critical thinking; flexible problem-solving; peer-to-peer, project-based learning; and teamwork based in experiential learning opportunities. The cross-disciplinary curriculum nurtures essential skills for academic success, including the ability to work both independently and collaboratively, organize one's work and time, craft research into meaningful projects, communicate effectively, and think globally. Teachers at Rose Hill are expected to develop meaningful, personal relationships with their students. Teachers reach out to graduating students' ninth-grade guidance counselors to share their insights about each student the spring before students enter ninth grade.

Each interview explored the respective participants' experiences, including their academic and social successes and challenges, at the Rose Hill School and then in high school. Participants included "Eva," "Ira," Steve," "Dave," and "Eric." Although the student stories are not generalizable, they provide insight into how middle schools can help make the Transition more successful. Themes emerged from the participants that they developed during middle school, which helped them make the Transition: academic skills, relationships with peers and teachers, and their attitudes toward learning and personal characteristics. A potential academic weakness of the Rose Hill School—lack of test preparation—is also discussed in this section.

Academic Skills

At Rose Hill School, students thrive when stress is minimized and curiosity is encouraged; thus, the academic culture is rigorous but in a relaxed environment. All participants reported feeling prepared for the academic rigors of high school and described themselves as succeeding academically in high school. Specifically, participants discussed their ability to get good grades, executive functioning skills, presenting and writing, and a love and appreciation for learning that is relevant.

Participants explained that although grades were a significant focus in high school, they were not emphasized in middle school. At the Rose Hill School, students do not even receive traditional grades until middle school. Although grades are presented on the middle school progress report, the progress report emphasizes in equal part the student's social-emotional aptitude. Eva explained, "In middle school we just didn't talk about grades. . . . In high school, people were, like, checking their grades all the time." Addressing grade-related pressure in high school, Eva said, "I think it's great to have a middle school experience where there's less of that. . . ." While Ira was proud of his success on the AP exams in physics and psychology, he similarly discussed frustration with

the focus in high school on test scores and grades. He preferred the middle school atmosphere: "I think the pressure at, like, Rose Hill is to learn."

Executive functioning skills are the self-management tools that students need to manage their time, organize and plan their workload, focus their attention, follow directions, and develop mental skills such as working memory, flexible thinking, and self-control. Ira joyfully remembered building a catapult in physics class at Rose Hill:

> *I remember we planned it all out, planned out what materials we needed and how it was going to work in term of the physics . . . and then it was just really satisfying to see it work in the end because it was just really cool.*

The time management, organization, planning, and focused attention skills for this long-term project were helpful when Ira later joined his high school robotics team.

Participants expressed that presentations and writing are both frequently used in high school assessments and that Rose Hill prepared them well in these specific areas. Rose Hill students regularly present on their learning to demonstrate their mastery of understanding. Writing is often taught workshop-style in collaboration with peers and teachers. Steve reflected that working through the discomfort of giving his graduation speech to the entire Rose Hill community (a rite of passage for each graduate) helped him to develop the ability to "perform or carry out whatever tasks you need to in front of people and under pressure." Dave was very confident about his presenting skills and emphasized that he was more competent than his high school peers. "I had the ability to put the right information on the slide, create talking points, use a notecard effectively . . . not just remembering a fact but take that fact and apply it to 10 different things." Dave said he came into middle school feeling that writing was his biggest challenge:

> *Just by doing it a lot and reading other people's essays and having other people edit your essay was a very effective tool for me because then I see how they're looking at my writing. . . . To have another student who's at your level and say what you did right and wrong and how you can go further with whatever ideas you have, I think, was a very effective tool.*

Dave said about writing, "Now I'm pretty stellar at it!"

Participants also left middle school with an appreciation for learning that is relevant. Rose Hill creates learning experiences that are personally relevant to students' aspirations and interests or are connected to real-world issues, problems, and contexts. For example, a cornerstone of the middle school experience is that all students work at a nearby organic farm every Friday for half the day. This experience teaches students teamwork, knowing where their food comes from, the value in manual labor, the role of nonprofits in a community, and the ethics of hard work. It stood out to Steve because it was "something that was, like, more in the real world." While at the farm each week, students frequently had to find ways to solve problems for themselves in the moment because things do not always go according to plan. Students are often left to come up with their own solutions. From practicing this at the farm, Steve said he was not rattled when, in the first week of his large high school of 2,000 students, he had to figure out how to find his classes.

Ira spoke about Rose Hill's emphasis on learning for the sake of learning. Because of that, he preferred classes in high school that also focused on learning for what the subject had to offer: "instead of just trying to get numbers right on the test, it was more about just actually knowing the topic" and not just getting a good grade. He discussed a high school astronomy class he loved:

> *The assignments took some time but were actually really fun—like there was one I distinctly remember where once a week you had to go outside and find the star, record a bunch of data like what star it is, its luminosity, and that was really fun to go outside at night and pick a star and look it up. That's cool.*

A potential academic weakness of attending a Montessori middle school was the students' relative lack of preparedness for a learning environment that uses tests as its primary form of assessment. Participants expressed that they had minimal experience with taking tests, test-taking strategies, and rote memorization. Dave had the feeling from middle school teachers that tests did not matter, so it was a huge adjustment to learn that the standardized tests administered in high school not only mattered, but passing them was needed for graduation. Also, Dave felt that he was never taught how to study for a test or memorize material: "I just never had the tools or got taught how to study for a test." He was frustrated

because he did not have the ability to determine which material covered in a class would be on a test. More practice with test preparation in middle school would have benefited Dave.

Relationships With Peers and Teachers

All participants discussed how their interpersonal relationships in middle school helped them learn essential social skills, including making friends, resolving conflict, and collaboration. Ira felt the small class sizes at Rose Hill helped develop social skills with people with whom one might not share common interests. Because there are not always options for making friends with people who are similar, it pushes students to learn how to engage and connect with different types of people. Eva said, "I had some people that I was more friends with than others . . . , but if we were, like, doing a group project or sitting at lunch or something, I could just sit with anyone or work with anyone."

Participants felt that they learned how to resolve conflict with peers at Rose Hill. Because the school was so small, they could not simply avoid a student with whom they were having a problem. Students discovered that conflict is a normal, healthy part of a relationship and that, by being respectful and expressing emotions in a calm manner, they could work through it. In the process of working out problems, students learn active listening, forgiveness, communication, and the importance of maintaining relationships. For example, Eric described a situation with a fellow Rose Hill student who at recess was more physical and competitive, and he felt pushed around by him: "It was just something we had to work out, and sometimes you just have to learn how to speak up when you don't feel something is right in that situation." He discussed bringing the problem to a teacher, and the three of them "talked it out"; afterward, "it was definitely better and improved. . . ." Similarly, Dave spoke about learning empathy through an art project during middle school:

> *We did the art thing with the canvases where we have to exemplify on [depict with images and words] the word "empathy," and that word had the biggest impact on me on a social level because you know I can be a little rough at times. . . . I learned there's a right way to communicate and a less effective way.*

At Rose Hill, middle school students have many opportunities to practice working with others to achieve a goal. Successful collaboration requires skills such as giving and receiving feedback on ideas, acknowledging other people's contributions, listening to the concerns and opinions of others, sharing information and workload, and negotiating to solve problems and achieve goals. For example, several of the participants discussed their happy memories from attending Montessori Model United Nations (MMUN). Rose Hill requires all students to participate and dedicates one history class each week to prepare for the annual MMUN conference in New York City. Students deliver an opening speech, represent the interests of a specific country, and write and submit a position paper on a topic. At the conference, students collaborate with students from around the world to pass resolutions on their topics. Ira said,

> *I remember MMUN very distinctly. . . . There was a lot of negotiation, actually, like, working together with people you don't necessarily know trying to get something collective done. And it was interesting. . . . We had a common goal, and we learned how to rally around that and get something done. That's a very good skill to have.*

Each of the participants discussed close relationships with their middle school teachers. Students said that they went into high school with the expectation that these were relationships they should have and described employing strong communication skills to cultivate these relationships. Eva reported that in middle school,

> *there was a lot of emphasis on talking to the teachers if there was a problem, and I definitely felt comfortable doing that. . . . You [the interviewer] were right there so we could chat, go get help whenever we needed it, and stuff, which was really nice.*

Eva reported that when she struggled with a class in high school, she would always go to her teachers first. Dave also said he felt very comfortable going to his middle school teachers for academic help, so he "had no trouble doing that" in high school. Dave and Ira explained that it was possible to have great relationships with teachers in high school, but students had to initiate and push for it.

Attitudes and Peronal Characteristics

Participants expressed that attitudes toward learning in middle school emerged into two major themes: a love of learning and a perception that a school should be a community. Middle school was about encouraging their curiosity, creativity, and understanding of themselves. They describe engaging in learning because it was personally rewarding and worthwhile for its own sake, rather than to secure a grade.

Eva described a few projects in middle school in which she was able to integrate art into her assignments:

> *I remember really liking a way to show my knowledge of the book by using art, which is something I enjoyed doing. . . . When we read the plays* Macbeth *and* Romeo and Juliet*, we made those CDs and album covers that represent something about the play, and I really liked doing that.*

Participants expressed the attitude that school should feel like a community. For example, Eric said that community bonding at Rose Hill "was really unique, [and] I hadn't experienced that before in an educational setting." Steve talked about how he really liked the spring and winter concerts in middle school because they brought the whole school community together. Dave mentioned the importance of the weekly community meetings at Rose Hill, at which everyone got together to discuss how the community was doing, celebrate successes, and resolve any concerns.

Through their stories, students described certain personal characteristics necessary to navigate their new educational setting, which included self-reliance, self-advocacy, and grit. Participants discussed the culture shock they experienced in the Transition: having to contend with a bigger school building, new systems, new schedules, a larger population of students, and new teachers. Rose Hill helped them be self-reliant to manage the discomfort associated with this new setting. For example, at the start of middle school each student determines a service project at the school to participate in weekly throughout the year. Students have to interact with adults at Rose Hill whom they do not know well to supervise their projects, pushing students to adjust to the expectations of different teachers, get to know a different population outside the middle school, and rely on themselves often to accomplish the goals of their project. For example, students have initiated beautification projects, tutored upper elementary students, or worked with toddlers on practical life skills. In this way students experienced helping manage the discomfort of adjusting to a new high school setting. For example, Dave struggled with the larger school environment: "There's so many aspects of it that were incredibly complex for someone who wasn't used to that. . . . It was just something foreign to me that made it incredibly stressful for the first semester." And yet, he was able to rely on himself and figure it out: "I stayed late a couple days to just walk circles around the school because I was like, let me just try and figure this out—you know, practice by exploring."

Eric spoke about advocating for himself with his high school teachers to have his 504 plan implemented in his classes: "Most of the time I was the one to kind of bring it [the 504 plan] up to them. . . , advocate for myself for that." Although Eric said he would always struggle with obsessive-compulsive disorder (OCD), he had confidence that it would not prevent him from thriving academically. In middle school, Eric regularly met with his teachers to talk about his challenges in completing homework on time. He was very open with middle school teachers about his OCD and how it affected his learning experience. When the time came to explain his situation to high school teachers, Eric was able to draw upon this experience with self-advocacy.

Grit is having the courage, resolve, and strength of character to persevere despite being confronted by obstacles and challenges. Ira spoke about how he generally liked working at the farm, but some Fridays it was awful.

> *I remember one time, it was early December, and they had just gotten rid of all the turkeys, and we had to shovel out all the turkey poop. It was frozen, and it was really cold that morning. It was just generally unpleasant.*

Ira was able to process the negative aspects of farmwork and persevere to appreciate the good aspects of the experience. Ira then spoke about an experience in his freshman year in which he struggled to figure out the online math homework:

> *I didn't know the system at all. And it was just really messing up. . . . I just kept trying to do it. Honestly, it was just [that] persistence paid off. I did all the systems, did all the homework, and just kept working at it, and eventually it just became, I know the system. I can do anything in it.*

Eva wrote her college essay about how she knew she would be able to overcome the obstacles of transitioning from high school to college because her middle school experience taught her she had the fortitude for the previous Transition.

> *I think the best thing [Rose Hill] did for me is that I felt very comfortable. I knew what I was interested in because I had a lot of chances to figure out what I was interested in. I was confident in my academic abilities. . . . It was like I felt more confident in myself to deal with the transitions, even if it was a big transition.*

Overview and Discussion of Findings

The findings of this research indicate that the Montessori middle school enriched these students' learning experience, made learning more personally meaningful, and fostered academic and emotional development. The students who attended Rose Hill School were intrinsically engaged in middle school, and that engagement persisted throughout high school and even into college, even after students were no longer in educational environments that embraced experiential learning. The benefits of developing close relationships with peers and teachers in middle school also persisted, in that the participants sought out high-quality peer and teacher relationships in high school. Personal characteristics that are essential in helping students make the Transition, such as self-reliance, self-advocacy, and grit, were developed during their Montessori middle school years.

Additionally, a lower-pressure learning environment that did not emphasize grades prepared students for the academic rigors of high school. Students developed an appreciation for learning that was relevant, and that appreciation persisted into high school and beyond. Participants felt validated in middle school for their interests, were encouraged to pursue what they cared about, and felt engaged in their learning process. Participants expressed that their middle school education fostered a love of learning and that their learning experiences were about encouraging their curiosity, creativity, and understanding of themselves.

Students discussed how their interpersonal relationships in middle school helped them learn essential social skills, such as making friends, resolving conflict, and collaboration, which were necessary for high school. Because classes were small, students engaged with different types of people. They discovered that conflict is a normal, healthy part of relationship and that, by being respectful, they can work through their disagreements with others. Participants related different ways these skills were beneficial in the context of high school. Participants also learned collaboration because middle school offered the opportunity to practice working with others to achieve a common goal.

Recommendations for Practice

For middle school administrators and teachers, the findings of this study suggest that it is useful to consider three elements for creating middle schools that prepare students for the Transition: (a) developing academic and social-emotional skills, (b) fostering positive attitudes toward learning, and (c) creating opportunities to practice self-reliance, self-advocacy, and grit.

The experience of these students accentuated the ability of a Montessori middle school to emphasize both academic rigor and the social-emotional skills that build the fortitude necessary for students to successfully transition to high school. This study suggests that Montessori middle school practices foster the intellectual and emotional growth of students so that they can successfully transition to high school and potentially be buffered from many of the detrimental academic and emotional impacts of ninth grade. Additionally, this study proposes that middle schools ought to solidify the foundations in writing, presenting, and test-taking that are necessary for future success.

The results of this narrative study suggest that middle-level educators ought to embrace the middle school concept and the Montessori philosophy. When students develop a love of learning and appreciation for learning that is relevant, they bring that attitude to their future learning settings, which is a significant factor in their ability to successfully transition to high school. Middle-level educators ought to recognize that how students feel about learning significantly affects their ability to learn.

Middle-level educators also should help students develop personality characteristics—self-reliance, self-advocacy, and grit—that are essential for students to navigate the interpersonal, instructional, and organizational changes in high school. This study suggests that Montessori middle schools excel at developing these qualities because students are active participants in their

learning. Exploratory learning pushes students to bring their whole selves to the learning experience and engage in a manner that builds their character.

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References

Aidman, B., & Price, P. (2018). Social and emotional learning at the middle level: One school's journey. *Middle School Journal, 49*(3), 26–35. https://doi.org/10.1080/00940771.2018.1439665

Allensworth, E. M., Gwynne, J. A., Moore, P., & de la Torre, M. (2014). *4 key findings for high schools from "Looking forward to high school and college."* University of Chicago Consortium on Chicago School Research. https://consortium.uchicago.edu/sites/default/files/2019-11/4%20Key%20Findings-HS-Final.pdf

American Montessori Society. (n.d.). *Montessori secondary programs*. https://amshq.org/About-Montessori/Inside-the-Montessori-Classroom/Secondary

Barber, B. K., & Olsen, J. A. (2004). Assessing the transitions to middle and high school. *Journal of Adolescent Research, 19*(1), 3–30. https://doi.org/10.1177/0743558403258113

Benner, A. D., & Graham, S. (2009). The transition to high school as a developmental process among multiethnic urban youth. *Child Development, 80*(2), 356–376. https://doi.org/10.1111/j.1467-8624.2009.01265.x

Boeije, H. (2002). A purposeful approach to the constant comparative method in the analysis of qualitative interviews. *Quality & Quantity, 36*, 391–409. https://doi.org/10.1023/A:1020909529486

Chattin-McNichols, J. (2016). The hard work of public Montessori. *Montessori Life, 28*(3). https://amshq.org/About-Montessori/Montessori-Articles/All-Articles/The-Hard-Work-of-Public-Montessori

Chen, R.-J., Daniels, E., Chaplin, M. S., Ochanji, M., Stowell, L. P., & McDaniel, J. E. (2012). In search of the middle school teacher: Navigating research, reality, and mission. *Middle Grades Research Journal, 7*(4), 57–72.

Cohen, J. S., & Smerdon, B. A. (2009). Tightening the dropout tourniquet: Easing the transition from middle to high school. *Preventing School Failure, 53*, 177–183. https://doi.org/10.3200/PSFL.53.3.177-184

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed). SAGE Publishing.

De Wit, D. J., Karioja, K., Rye, B. J., & Shain, M. (2011). Perceptions of declining classmate and teacher support following the transition to high school: Potential correlates of increasing student mental health difficulties. *Psychology in the Schools, 48*(6), 556–572. https://doi.org/10.1002/pits.20576

Doda, N. M., & George, P. S. (1999). Building whole middle school communities: Closing the gap between exploratory and core. *Middle School Journal, 30*(5), 32–39. https://www.jstor.org/stable/23023360

Edwards, S., Kemp, A. T., & Page, C. S. (2014). The middle school philosophy: Do we practice what we preach or do we preach something different? *Current Issues in Middle Level Education, 19*(1), 13–19. https://www.researchgate.net/publication/265124613_The_Middle_School_Philosophy_Do_We_Practice_What_We_Preach_Or_Do_We_Preach_Something_Different

Ellerbrock, C. R., & Kiefer, S. M. (2014). Supporting young adolescents' middle-to-high-school transition by creating a ninth grade community of care: Implications for middle grades education. *Middle School Journal, 45*(3), 3–10. https://www.jstor.org/stable/23610614

Every Student Succeeds Act, 20 U.S.C. § 6301 (2015). https://www.congress.gov/114/plaws/publ95/PLAW-114publ95.pdf

Felmlee D., McMillan C., Inara Rodis, P., & Osgood, D. W. (2018). Falling behind: Lingering costs of the high school transition for youth friendships and grades. *Sociology of Education, 91*(2), 159–182. https://doi.org/10.1177/0038040718762136

Manning, M. L. (2000). A brief history of the middle school. *Clearing House, 73*(4), 192. https://doi.org/10.1080/00098650009600946

McCallumore, K. M., & Sparapani, E. F. (2010). The importance of the ninth grade on high school graduation rates and student success. *Education Digest: Essential Readings Condensed for Quick Review, 76*(2), 60–64.

Merriam, S. B., & Tisdale, E. J. (2015). *Qualitative research: A guide to design and Implementation* (4th ed.). Wiley.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (4th ed.). SAGE Publications.

Musoleno, R. R., & White, G. P. (2010). Influences of high-stakes testing on middle school mission and practice. *RMLE Online: Research in Middle Level Education*, *34*(3), 1–10. https://doi.org/10.1080/19404476.2010.11462076

National High School Center. (2007). *Easing the transition to high school: Research and best practices designed to support high school learning* (ED501073). ERIC. https://files.eric.ed.gov/fulltext/ED501073.pdf

Neild, R. C. (2009). Falling off track during the transition to high school: What we know and what can be done. *Future of Children*, *19*(1), 53–76. https://doi.org/10.1353/foc.0.0020

Neild, R. C., Stoner-Eby, S., & Furstenberg, F. (2008). Connecting entrance and departure: The transition to ninth grade and high school dropout. *Education & Urban Society*, *40*(5), 543–569. https://doi.org/10.1177/0013124508316438

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), 33–48.

No Child Left Behind Act of 2001, P.L. 107-110, 20 U.S.C. § 6319 (2002). https://www.congress.gov/107/plaws/publ110/PLAW-107publ110.htm

Robinson, R. (2017). Implications for middle schools from adolescent brain research. *American Secondary Education*, *45*(3), 29–37.

Schaefer, M. B., Malu, K. F., & Yoon, B. (2016). An historical overview of the middle school movement, 1963–2015, *RMLE Online*, *39*(5), 1–27. https://doi.org/10.1080/19404476.2016.1165036

Scogin, S. C., Kruger, C. J., Jekkals, R. E., & Steinfeldt, C. (2017). Learning by experience in a standardized testing culture: Investigation of a middle school experiential learning program. *Journal of Experiential Education*, *40*(1), 39–57. https://doi.org/10.1177/1053825916685737

Sibley, E., Theodorakakis, M., Walsh, M. E., Foley, C., Petrie, J., & Raczek, A. (2017). The impact of comprehensive student support on teachers: Knowledge of the whole child, classroom practice, and teacher support. *Teaching and Teacher Education*, *65*, 145–156. https://doi.org/10.1016/j.tate.2017.02.012

Watts, C., Seed, A. H., & Franceschini, L. A., III. (2013). In the middle: Do we share the vision? Do principals and teachers agree about the middle school concept? *Current Issues in Middle Level Education*, *18*(2), 14–20. https://files.eric.ed.gov/fulltext/EJ1087716.pdf

Wheelock, A., & Miao, J. (2005). The ninth-grade bottleneck: An enrollment bulge in a transition year that demands careful attention and action. *The School Administrator*, *62*, 36. https://www.aasa.org/SchoolAdministratorArticle.aspx?id=8728