

A Case for Waldorf Education

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The case for Waldorf education is clear for anyone familiar with pedagogical and physiological research of the last few decades. Although Waldorf schools have been working and teaching in much the same manner as the original school established by Rudolf Steiner in Stuttgart in 1919 (see Stockmeyer & Craddock, 2009), only recently has independent research confirmed the soundness of Steiner's pedagogy. Furthermore, international comparisons of test results for high school students have also produced support for the salient Waldorf school program elements. This kind of support is especially relevant to parents who often have questions about a school system which is in many ways different from the conventional, even though students are usually quite happy attending Waldorf schools. The present report seeks to summarize the relevant research results.

Building Brain Cells

As children grow, their brains grow along with the rest of their bodies. A larger brain capacity offers larger opportunities for registering and processing information. Research has shown that there are five ways to increase brain cell numbers (Begley, 1996; Hancock, 1996; see also Chugani, 2011). These are: music, art, handwork, movement, and personal connections to adults. All of these ways are strongly represented in Waldorf education.

Music. We all know that Albert Einstein played the violin. Whether this influenced his intelligence is anyone's guess. However, several research projects have shown the positive influence of musical experience on learning. Musical training stimulates brain development (First Evidence, 2006; Kingsbury, Overy & Woo, 2005). And comparison studies in schools have

demonstrated that students who had music classes did better on math than those who did not, *even if the music classes replaced some of the math classes*. Students taking music classes also scored better in foreign languages and were noticeably more socially conscious (Stokes, 2002; Uhlig, 1999).

Music plays a significant role in Waldorf schools from grade one through high school. All students learn to play recorder in first grade and are encouraged to take up an orchestral instrument in third grade. Students in neighboring classes play together in orchestras. Vocal music is also introduced already in first grade, with the complexity of choral and solo material increasing by age level. By high school, students are often presenting musical dramas, from Mozart's *The Magic Flute* or Handel's *Messiah* to modern musicals. Monthly or bi-monthly assemblies for parents give students opportunities to perform for parents and peers. There may also be evening recitals.

Art. Specific pedagogical studies have verified the positive relationship between art and academic achievement (Gardiner et al., 1996).

In Waldorf schools there is a strong presence of the visual arts: painting, drawing, sculpture. Already in first grade, students are introduced to watercolors used in both abstract and representational art. Crayons and colored pencils are also used by students to construct their own Main Lesson books, in which they depict and describe the main stories or concepts of the content of the Main Lessons. An artistic approach to all subjects, including mathematics, helps to connect the more intellectual students with feeling life. Sculpture is also part of the curriculum, culminating in stone carving in 12th grade.

Handwork. Fine motor movements are now recognized as contributing to intelligence and success in school (Gardiner et al., 1996; Auer, 2001).

In Waldorf schools, handwork begins in first grade and continues through high school, with ever more challenging projects. First graders knit recorder cases for their first musical instruments. Later they advance to weaving, and they also learn to make yarn from raw wool and then design and make their own clothing. There is also handwork in other media, including wood and metal. As children grow, projects become more complex and demanding. As eighth graders and later in the 12th grade, students carry out independent projects that range from clothing, jewelry, or musical instruments to electronic equipment.

Movement. Aside from boxing and football, sports generally have a good reputation as far as intelligence goes. After all, sports require focus and strategic thinking as well as skill (Zauer, 2010). Waldorf schools have always included eurythmy and gymnastics. Sports are played in the Waldorf upper grades, though generally those with potential head injuries are not encouraged.

Movement is an important part of Waldorf school method and curriculum. In the early grades, students stamp or clap out their times tables as they march around the classroom. (This exercise is especially important for young boys, who much enjoy making noise and stamping around to please the teacher rather than irritating her or him, which is too often the case in conventional schools.) Eurythmy, a mode of physical movement in which gestures are matched with speaking, musical sounds, and feelings, is taught from the first grade, with more complex movements and coordination introduced as the students progress. Next to some of the regular sports, gymnastics is also learned to foster a sense for orientation in space. Dramatic productions and recitation begin already in first

grade and increase in complexity, culminating in the lower school with a Shakespearean production in the eighth grade and a more complex modern drama or musical in 12th grade.

Personal connections to adults (see Richtel, 2011). This is one area where Waldorf schools stand out dramatically from the trend in public and other private schools, where teachers and books are increasingly being replaced by computers.

The lower school class teacher, who normally carries a class from first through eighth grade, comes to know personally each child, as well as the family, through class meetings, parent conferences and home visits. Teachers are expected to keep each child in mind as they prepare their lessons. They are also sensitive to the developmental stage of each individual student, recognizing those who are able to push ahead to advanced work, and giving special attention to those needing more time and attention. Each student can be recognized for his or her positive contribution to the class. Through class projects, plays, outings, and camping trips, teachers and children get to know each other personally. A deep and abiding sense of respect and care between child and teacher is the ideal. The respect with which children in the early grades respond to the deep care they receive from their class teacher is transferred in the upper grades to a respect for great men and women in science, history, literature, and so forth.

Waldorf schools generally do not introduce computers and calculators in the upper school, as useful tools. As with other modern technology, Waldorf schools are more interested in the inner workings of a machine, its historical development, appropriate use, and effect on modern society. However, all students learn the times table and how to do long multiplication and division, learning to trust themselves prior to trusting the machine.

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Readiness

A brilliant economist, Knut Wicksell (1851–1926) developed Keynesian economics prior to or parallel to John Maynard Keynes, but received at the time little international recognition given that he published his work in his native Swedish. Today, Wicksell is recognized as the one who brought Sweden out of the Great Depression long before any other nation began its own recovery. Wicksell did not wish his sons to be subject to the state school system, so he sent them to live on a farm in the countryside until it was time for them to attend high school. Still, one son became a mathematician and the other a medical doctor.

With a sensitivity to learning readiness, Waldorf schools do not try to push children forward before they have reached the appropriate developmental stage, when learning is more efficient and also more fun and rewarding. Furthermore, the top results on the Programme for International Student Assessment, or PISA, tests come from countries where schooling begins late, not until age six or seven, and education proceeds through games and stories, much like in Waldorf kindergartens (Crehan, 2016).

As in the highest scoring countries, Waldorf schools also generally do not divide students by ability, although upper level high school math classes are often split between calculus and consumer or business math. Tracking students condemns the slow starters or late bloomers to perpetual second class status.

Handwriting

While many schools today view handwriting as no longer important in the contemporary keyboard world, Waldorf schools teach all children print and cursive writing, and all expect written work to be handwritten, at least through eighth grade, if not through 12th. While this may appear old-

fashioned, recent research has demonstrated that handwriting activates the brain in ways that typing does not. Even at the university level, writing notes in class by hand results in better understanding and retention of material than when a laptop is used (Klass, 2016).

Foreign Languages: The Early Language Window

Children find it especially easy to assimilate a foreign language during the first seven years of life. Around age seven, the language window begins to close, but children are still able to learn fairly easily throughout the lower school years (Hancock, 1996; Kluger, 2013). Beyond their obvious advantage of the ability to communicate in other languages, people who become fluent

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in more than one language have been shown to have definite learning advantages over those who are monolingual. Bilingual brains are more efficient, apparently because they can automatically switch between languages, or “task switch,” making this act easier in other mental domains. Being multilingual also proves to be cognitively beneficial later in life, as older multilingual people appear to have a slower rate of

mental deterioration as they age and have on average a four-year advantage over monolinguals in terms of mental clarity before age-related brain deterioration sets in (Kluger, 2013).

The language-learning window is recognized and made use of by Waldorf schools, teaching foreign languages from grade one. (A relatively recent experiment at Utah’s public school system has begun introducing foreign language study in first grade in a growing program that expands to several more school districts every year [Kluger, 2013].)

Generally, two foreign languages are introduced in Waldorf schools in first grade. The

introduction of the new languages is first done through simple songs and poems, to develop a feel for the languages' sounds and rhythms. Later, vocabulary, grammar, conversation, literature, and culture are introduced as appropriate. In high school, through the worldwide network of hundreds of Waldorf schools, students may arrange to attend schools in other countries or participate in an exchange with a student in a sister school, for example, in Germany, Spain, France, or Colombia. It is not uncommon for students from abroad to appear as regular students in Waldorf schools.

Ability to Focus

More than the assimilation of facts or the ability to pass tests, success in life requires focus (Tough, 2012). Waldorf schools instill this ability through the Main Lesson system and through de-emphasizing testing and the rote memorization of facts.

Each morning the school day starts with a Main Lesson. This is a double period (or longer), in which one subject is the main focus for three or four weeks, for example, English, mathematics, physics, geography. The longer time-slot and daily instruction give the teacher opportunity to develop a topic thoroughly. Students write reports, often carry out individual or class projects, and complete their own Main Lesson books, which generally include daily essays and drawings or pictures illustrating the course material. There may be a written review (test) at the end of a block of study, but student participation and the written record are at least as important. In the elementary school, teachers submit written evaluations rather than grades. In the high school, written personal evaluations of each student in each class continue, together with a letter grade, which generally include all aspects of the course, not just test results.

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Computers and Technology

Waldorf schools introduce high school students to the major areas of modern technology through the science and mathematics classes. In addition, many schools also have separate technology blocks, factory visits, and opportunities to spend several weeks working and learning in a modern industrial setting. To use technical equipment without any idea how it works is a kind of “dumbing down,” a loss in our confidence to understand and control our environment.

The use of personal computing technology—calculators, computers, laptops—is strongly discouraged in the lower school. In the high school, these are made use of as appropriate, namely, as tools to enable efficient complex analysis. In a 1984 computer workshop for Waldorf teachers, Joseph Weizenbaum, computer science pioneer at MIT, stated that computers are

to be avoided prior to high school, and when introduced, they should be specifically presented as tools. The best preparation for university computer study is the liberal arts: art, music, language, history, and so forth. Learning to view modern technology as tools

which humans control helps avoid the tendency to leave the human element out, to fall victim to the “tyranny of convenience,” in which all decisions are turned over to a computer and the human is then “out of the loop” (Wu, 2018).

Learning and Forgetting

Over a hundred years ago the German psychologist, Hermann Ebbinghaus, discovered that when people relearn something, they penetrate to a deeper level of understanding. In Waldorf schools, we return to a subject after a year's break to relearn and penetrate to a deeper level. This is the Main Lesson block schedule, with subjects coming once a year for an intensive three to four weeks—for example, high school physics, chemistry, biology—instead of a whole year of memorizing and forgetting (Boser, 2017).

Artistic Teaching

Deep learning takes place through emotional or artistic connections, awakening the feelings (Foer, 2011). Certainly we remember best if the material is connected to our feelings. Waldorf teachers design their classrooms and their lessons with this in mind.

The classroom itself is aesthetically pleasing, with walls painted in flowing colors, wooden cabinets, and generally few or no right angles, in order to encourage “thinking outside the box.” Human experience and the struggles of historical personalities make history and science come alive. Excitement, wonder, expectations can awaken connections. Teachers are encouraged to be creative in their approach, designing their own lesson plans as they envision the children in their own particular class.

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Breaks between Classes

Controlled studies of university students have demonstrated that taking a break after a learning session, prior to going on to new material, significantly improves retention of what was just learned (Richtel, 2010).

In Waldorf schools, following the first (double) period of the day, the Main Lesson, there is a long break of generally a half hour. Then a series of perhaps three lessons follows prior to lunch. However, although there may be no breaks between these classes, generally one, often the middle one, is non-academic, such as chorus, orchestra, eurythmy, or gymnastics. Thus a good break often occurs between all academic classes. After the morning classes, lunch marks the break in the day, after which follow the afternoon classes, consisting mostly of arts or handcraft projects.

Private Schools, School Choice

Besides Waldorf schools, a variety of attempts have been tried to make alternative inroads into the mainstream public school system in this country. Such alternatives include prep schools, Montessori schools, free schools, and home schooling. More recently school vouchers, charter schools, including some Waldorf inspired schools, and for-profit schools have been tried.

The available studies often show improvements in school achievement among students attending independent schools (Free, 2007; Bohlmark & Lindahl, 2012). Furthermore, when school choice was introduced in Sweden, not only did the achievement of students in independent schools improve, but the students remaining in public schools also improved their test scores. The speculation was that competition had caused the remaining state schools to improve as well.

Art and Academics: Are Waldorf Students Left Behind?

Parents often wonder if students at Waldorf schools are prepared with sufficient academic rigor in mathematics and writing to succeed in other high schools and in college or university.

A detailed survey of Waldorf school graduates was carried out in Germany several years ago (Barz & Randoll, 2007). The general findings of this study were that Waldorf graduates at first found it more difficult to orient themselves in the higher academic world. However, once they made the transition, they were better able than their peers to set a course and pursue goals successfully. (As far as I know, the study, published in Germany as “*Absolventen von Waldorfschulen: Eine Empirische Studie zu Bildung und Lebensgestaltung*” [Graduates of Waldorf Schools: An Empirical Study of Education and Life-forming] has not been translated.)

With regard to written expression, a key element in any college curriculum or profession, Waldorf students develop writing skills well above the typical high school graduate, whose ability in this area is often bemoaned by college professors. Waldorf students, throughout their upper school years, constantly write reports and essays, which are corrected by their teachers and must be revised. In addition to regular English classes, writing is part of all Main Lessons, including those in math and the sciences.

Another survey, of North American Waldorf school alumni (available from AWSNA), included some 600 graduates. The results: 94% of graduates proceeded to college (most to elite, selective institutions), 88% of students graduated, and over 50% had done or were planning to do graduate work. As college students, they were often recognized by their college professors as self-directed, eager to learn, and demonstrating problem-solving abilities, communication skills, and social awareness (Mitchell & Gerwin, 2008). As a Waldorf college guidance counselor, I have visited over two dozen colleges and universities in the Northeast. Most admissions officers recognize the Waldorf name and had a very positive attitude, encouraging our students to apply. Rare is the applicant who comes in with the beautiful portfolios our students put together. They stand out also in their ability to express themselves verbally.

International Comparisons: The Relevance of Finland

For several years, international student performance comparisons of 15-year-olds have been carried out using standardized tests, the so-called PISA studies. The school system which has consistently topped all the others is that of Finland. (Finland's scores have dropped somewhat in recent testings. See below.) There has been much speculation as to why this might

be, and many researchers have traveled to Finland to try to find out (Alvarez, 2004; *The Economist*, 2006; Finland, 2006; *The Economist*, 2010; Sahlberg, 2010; Guttenplan, 2012; Wooldridge, 2013; Ripley, 2013).

Teacher-run Schools. The Finnish school system turns out to have much in common with Waldorf schools. One thing it obviously does *not* have in common is independent schools. In

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Finland, the schools are part of a government system. However, this system is totally different from the government systems of other countries, including the American system. Each school is independent and run by the teachers themselves. The role of the administration is to provide administration, facility management, etc., while all

pedagogical decisions are made by the teachers. As in other top-performing school systems, teachers receive feedback from peers rather than evaluations by administrators (Crehan, 2016). Generally, the teachers work collegially, planning classes and programs together (Guttenplan, 2012). (This is also true in Chinese schools studied, certainly in the case of big city schools.) The Finnish schools do use testing, but the tests are designed by the teachers, primarily as diagnostics. Because teachers are treated as professionals, who are allowed to exercise their creativity and take initiative, there is a high demand for the available teaching positions. Applications to mandatory teacher training institutes far exceed available places. The profession has the top talent even though it pays comparatively low salaries. Still, given their professional status, teachers generally enjoy a high regard in the wider community. In short, the state school system is essentially a system of independent, teacher-run schools.

The similarity to Waldorf schools is clear: Waldorf schools are also independent and teacher-run. All pedagogical decisions are

made by the teachers themselves within set faculty committees and the College of Teachers. Certainly, Waldorf teachers are generally trained in the traditions and methodology designed by Rudolf Steiner and practiced throughout a hundred years of Waldorf school experience, but teachers and school communities are free and encouraged to develop new approaches and material appropriate to their students today and in the particular region and culture in which the school is located.

Beyond being teacher-run, the Finnish schools (and Finland in general) have other features reminiscent of Waldorf Schools:

- There is little homework before high school (age 16) (Hancock, 2011).
- Lower school teachers often continue with a class for five or six years.
- There are breaks between classes for students to go outside, play music or games, snack, or just relax and let the last class sink in.
- The State subsidizes music lessons, so playing music is not just for the upper classes.
- There is a strong handwork and craft tradition in Finland.

The Finnish example demonstrates that the main solutions often offered, namely, more funding and independent schools, though helpful, are not necessary for a first-rate school system. On the contrary, schools which are teacher-run give the best results, whether in a state system or not. All of these findings support Waldorf education.

In the results of the 2012 PISA testing (Finnish, 2013), Finland fell behind several East Asian systems, particularly in mathematics, but also in reading and science. (The lower scores continued in the latest round of testing.) The top performer was the Chinese city of Shanghai, though it does seem unfair to compare a city with national scores. Still, these systems display

several key elements we have recognized: teacher training and status and improving the education of all students, including poor and disadvantaged. The downside of these systems is the extreme academic pressure and the lack of balance, as academic subjects fill the whole day from morning to night. Creativity, a key element in future success, is neglected. Furthermore,

in China the poorer children from the countryside are often not admitted to the city school systems, thus giving results an upward bias.

It is worth noting the solution proposed by Finnish educators for addressing lower test scores. In contrast to the United States' "Common Core" program, with

its focus on drill and memorization, Finland is planning to increase music and art and phenomenon-based learning in the schools. They view the decline in test scores as related to the influx of cell phones, which, in Finland as here, occupy students in free moments, replacing conversation, sports, games, music, and reading, which used to occupy students during their breaks.

Cell Phones

The bane of all children and school systems today, cell phone use, is generally banned in Waldorf schools, except for emergencies. In addition to impacting test scores negatively, recent observations by the author in local public school gym classes revealed a remarkable decline in social interaction. Teachers confirmed a dramatic change in student behavior. Although some students still play on traditional interscholastic teams, the majority display neither cooperation nor competition in their school gym classes. Gym teachers report that this behavior began about four or five years ago (2012), when cell phones became ubiquitous. In free play on the basketball court, students choose neither team nor individual competition, rather, they simply

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toss loose balls at the nearest basket. During two days of observing six classes a day, with ten tables in each class, there was one competitive game. In all the others, students simply lobbed the ball back and forth, as if in a trance, until the end of the play period, when they could return to their phones.

Conclusion

Through this brief review of current research and pedagogical trends, we can see how Waldorf education has been practicing for close to a century many of the approaches that are now being recommended in the mainstream. Waldorf's engagement with music, the arts, handwork, and movement is shown today to be beneficial to the students' development in various areas. Similarly, the students' personal connection to adults, through the model of a consistent class teacher, and their exercises in handwriting, recitation, and focused study through the Main Lesson system all correspond to current mainstream recommendations. Waldorf's emphasis of second-language learning in early grades is being implemented in emerging alternative school systems, while its rhythms of relearning, longer breaks between classes, and appealing to the students' feelings are being picked up by research and classroom application. Finally, the Waldorf model of school self-governance is now showing signs of decisive success when studied in other school systems governed by its teachers, who are granted creative freedom within the guidelines of a clearly laid-out pedagogy.

All these findings make the case for Waldorf education as an approach that has recognized and practiced the successful pedagogical methods, the value and efficacy of which are only now being discovered by mainstream education through empirical research and study.

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