

Jennifer L. Jolly, Ph.D.

Pioneering Definitions and Theoretical Positions in the Field of Gifted Education

The previous Historical Perspectives column focused on the foundations of gifted education and the influence that Francis Galton, Alfred Binet, and Cesare Lombroso had in shaping the field. This work seeks to extend the examination of the historical roots of gifted education by focusing on definitions and theoretical underpinnings of giftedness from the viewpoints of four pioneering researchers and practitioners during the early 20th century—the foundational period of gifted education.

The four individuals addressed in this column are Lulu Stedman, Leta Stetter Hollingworth, Lewis Terman, and Guy M. Whipple. Hollingworth and Terman are figures synonymous with gifted education; Stedman and Whipple are lesser known individuals who conducted some of the earliest empirical studies in the field. This column will explore how these four pioneers defined and theorized giftedness and their subsequent influence on current definitions of giftedness.

Lulu Stedman

Lulu Stedman was a “training teacher” (now referred to as a clinical faculty member) who worked with preservice teachers in the practical application of teaching skills at the Los Angeles State Normal School, which in 1918 had recently become part of the University of California system (Minton, 1988). Stedman established an opportunity room for gifted students in January 1918 just after this transition took place. In 1919, *Sierra Educational News*, the official publication of the

California Teachers’ Association, published an article written by Stedman detailing her work at the Southern Branch of the University of California (now UCLA). This article was the prelude to a more comprehensive and detailed account of the opportunity room and a sample of its students in her book *Education of the Gifted* (1924).

Stedman noted that the children included in the opportunity room were of “great capacity.” Thus, the practice of special education for gifted children only helped to fulfill their unique potential. The underlying principle of individual differences also guided educational practices to develop students’ individual differences to their fullest capacity (Stedman, 1919). As she wrote, “In starting this ‘opportunity room’ it was the aim of the school to establish for gifted children an environment where their abilities might develop in accordance with the psychological principles underlying individuality” (Stedman, 1924, p. 5).

In *Education of the Gifted*, Stedman did not offer an explicit definition of giftedness. Instead, she described the characteristics of the group of children enrolled in the opportunity room. These included “enterprising,” “adventurous,” “maturity,” “greatly above average,” “self-control,” and “poise of an adult.” The group of 10 children comprising the inaugural opportunity room was initially selected from the results of a battery of achievement and aptitude tests. The students ranged in age from 7 to 11 years of age; however, the Stanford-Binet indicated a mental age ranging from 11 1/2 to 14 1/2. Their intelligence quotients (IQ) ranged from 125

to 167. This selection process remained in place at the time *Education of the Gifted* was published in 1924, except that the lower range of IQ scores had been raised to 140.

Mental endowment appeared to be the sole criterion for selection into this opportunity room for gifted children. Despite Stedman's lack of a definition of giftedness, she described qualifying opportunity room students as "endowed with superior intellectual endowment," "superior ability," "extraordinary ability," "exceedingly studious," and having learned to read at a very early age (Stedman, 1924).

Leta Hollingworth

Throughout Leta Hollingworth's work, definitions of giftedness often appeared in the introduction of each publication, as if to establish early on the distinct nature of gifted students. In 1927, Hollingworth felt that the field was still too embryonic for "established and static terminology." At this time she stated, "Nearly all we really know about gifted children has been learned from researchers in the past ten years" (p. 3). As research in the field of giftedness continued to evolve, so too would the definition. Hollingworth would eventually offer not only definitions, but also lists of behaviors and traits that characterized gifted children as a whole.

Hollingworth's first articles in the field centered on the study of Child E, who possessed a 187 IQ. However, Child E was referred to as "prodigious," not gifted. Hollingworth consulted several dictionaries to help clarify for the reader the meaning of prodigious. Included were the words *wonderful* and *extraordinary* (Hollingworth, 1917, 1922).

As Hollingworth's research deepened, her definition of giftedness

included superior intelligence along with a list of behaviors or traits that most often accompanied superior intelligence. By her standards, a 130 IQ (Stanford-Binet) qualified a child as having superior intelligence. Only 1 in 100, or the top 1% of children, was born with a 130 IQ or above (Hollingworth, 1924, 1927, 1928, 1931, 1932, 1936, 1937a, 1939a).

Descriptions of gifted children included "mature," "dependable," "wise," "witty," "youngest chronologically in class," "excellent memory," and "enjoys the company of adults" (Hollingworth, 1924, 1927, 1931). Academic behaviors in these children comprised early interest in both numbers and words, as did an ability to read with comprehension at a young age; advanced awareness of the clock, calendar, and almanac; and relentless curiosity (Hollingworth, 1924, 1927, 1928).

By the 1930s, Hollingworth began to acknowledge that giftedness could manifest itself in additional ways. She now included the arts, drawing, mechanical aptitude, abstract knowledge, and leadership (Hollingworth, 1931, 1932, 1939b). She acknowledged that intelligence could be measured, yet the Stanford-Binet only measured the degree of intelligence, not the kind (Hollingworth, 1932). The 1930s also offered the first glimpses of identified gifted children entering adulthood, which aided in further defining the thresholds for IQs in the upper ranges (Hollingworth, 1937b).

Hollingworth also recognized a distinction within the ranges of superior mental ability. Those children with a 180 IQ and above posed special challenges to the school system, where children with significant mental endowments could rarely be satisfied socially or academically (Hollingworth, 1942). When her book

Children Above 180 IQ was published in 1942, no established definition of genius existed. Hollingworth postulated,

It will perhaps be many years before it will be apparent whether the children studied herein are geniuses or not. Perhaps this can never be determined, as the word "genius" may eventually be found to have no meaning that can be agreed upon. All we know about the status of the subjects of the present study is that they test above 180 IQ (S-B) and are thus more than +10 PE (probable error) removed from mediocrity in general intelligence. (p. 1)

In adulthood, Hollingworth found that creative thinking of high merit appeared in persons testing most often at 180 IQ. "Above 180 IQ (S-B, 1916) original research is often spontaneously and successfully undertaken, between the eighteen and the twenty-fifth birthdays, by these persons testing" (Hollingworth, 1937b, p. 75).

Hollingworth's definition of giftedness included those children testing at or above 130 IQ, or the top 1% of children. Such children exhibited significantly different behaviors than those of the mainstream gifted population. However, toward the end of her career, Hollingworth encouraged broadening the definition of giftedness to incorporate more nebulous behaviors such as creativity and leadership.

Lewis Terman

Lewis Terman's definition of giftedness was inextricably tied to that of intelligence. As a graduate student, Terman studied Alfred Binet's work on intelligence tests, and nearly a

decade later, he somewhat serendipitously found himself transforming the Binet-Simon into the Stanford-Binet for an American audience (Minton, 1988). His work on the Army Alpha and Beta during World War I further cemented his belief that measuring the degree of intelligence had great implications for scientific psychology and education (Terman, 1930). Due to the publication of the Stanford-Binet, Terman also had a vested interest in propagating the intelligence test and its presumed merits for educational purposes.

Curiously, Terman's doctoral dissertation, *Genius and Stupidity: A Study of Some of the Intellectual Processes of Seven "Bright" and Seven "Stupid" Boys*, gave no definition of brightness. In an article based on his dissertation, he wrote,

In the beginning, then, we do not define 'brightness' or 'dullness' any more definitely than does the world in general. The aim was to secure subjects whom most people would readily agree in classifying one way or the other, and then proceed to the investigation of what constitutes the fundamental intellectual differences between the two groups. A large number of studies ought to end by giving us a definition of terms. At present, such definitions are lacking. (Terman, 1906, p. 316).

Even after completing this investigation, Terman still failed to offer a definition of genius or brightness. In 1911, now armed with the Binet-Simon and a numerical representation of intelligence, Terman began seeking children of exceptional mental ability. His results were published in a 1915 article in which exceptional

mental ability equated to a 125 IQ or above, which was found in 2 out of 100 children.

However, by 1919, Terman, now using the Stanford-Binet, raised exceptionality to a 140 IQ and above, or the top 1% of children, in identifying 59 superior students. These students were also described as high in general intelligence, sustained attention, will power, persistence, dependability, and studiousness. Terman (1919) noted that the "[t]ypical superior [child] is exceptionally loveable and charming, the kind of child one would like to adopt" (p. 185).

In 1921, Terman began identifying the sample for *Genetic Studies of Genius*, his seminal longitudinal study on gifted children. Clear guidelines were established for qualifying subjects, and the overwhelming majority of children included in the study had an IQ of 140 or above (Terman, 1924). Terman's reasoning for the "arbitrary line" at 140 rested with two points. First, he argued that "children of this grade of superiority are sufficiently unlike average children to need special educational opportunities," and second "most extensive investigations of superior children as a class have concerned themselves for the most part with subjects of this grade of intelligence or above" (Terman, 1930, p. 570).

Terman initially thought that those children testing at a 140 IQ should be classified as geniuses. In 1916, he had suggested the following classification of children on the basis of IQ (cited in Hollingworth, 1926, p. 42):

Genius or near genius	above 140 IQ
Very superior	120–140 IQ
Superior	110–120 IQ
Average	90–110 IQ
Dull normal	80–90 IQ

Dull	70–80 IQ
Feeble-minded	below 70 IQ

However, he rescinded this conclusion after realizing that this would include too many of the school-aged population "and about a quarter of all college graduates test at or above this level" (Hollingworth, 1939a, p. 100). Genius was now considered 180 IQ and above (Terman, 1930). In furthering his distinction between genius and talent, Terman (1930) stated,

By genius we mean the very exceptionally superior grades of ability, whether the ability in question be general or specific. By talent we mean a superior grade of ability whether general or special, that is exceptional but less so than the grade constituting genius. (p. 406)

Aware of the limits of intelligence testing, Terman (1921) stated, "How absurd . . . to regard intelligence of every kind as of equal rank with intelligence of every other kind" (p. 131).

Guy M. Whipple

Guy M. Whipple, also a disciple of intelligence testing, had worked with Terman on the Army Alpha and Beta during World War I. He, too, forecasted the impact and practical use intelligence tests would have for psychology and education (Bagley, 1942).

Whipple's first published article on gifted children dates back to 1911. In 1919, he wrote *Classes for Gifted Children*, the precursor to Hollingworth's first textbook on gifted children. This work included discussions on the value of testing to identify gifted children along with suggestions

for the organization and operation of special opportunity rooms. In one tribute to Whipple, written after his death in 1941, educational psychologist William C. Bagley gave Whipple credit for being “the first of the psychologists to give adequate recognition to the special problems involved in the education of gifted children” (Bagley, 1942, p. 468).

Whipple felt intelligence and educational tests revealed individual differences within heterogeneously grouped students, allowing for appropriate educational practices to be applied (Whipple, 1923). He recognized that superior mental endowment had always been an indicator of giftedness, harking back to the time of Plato. However, only with the advent of intelligence tests could measurement for such capacity be done with any genuine reliability (Whipple, 1924).

Whipple’s definition of giftedness was two-pronged. Borrowing from the German tradition, he proposed that a gifted student was one who could compress two years of schooling into one. Whipple estimated that this ability comprised approximately 10% of American school children. An additional or alternative method of defining giftedness centered on a student’s IQ. Keeping in concert with the estimate of 10%, this would include students with a 115 IQ or greater (Whipple, 1919, 1923).

Comparisons

IQ was considered the final litmus test in identifying gifted students during this time period. All four pioneers placed great reliance on the Binet-Simon and later the Stanford-Binet to

Stedman, Hollingworth, Terman, and Whipple all remained confident in the science of psychology. They believed that the Stanford-Binet and other mental tests produced reliable estimates of a student’s mental function.

sift out students with superior mental ability from the general school population, marking them as qualitatively different from their school peers and thus in need of different education practices. However, the authors differed on the lower limits of the range. Whipple cited 115 IQ as a minimum, Hollingworth cited 130 IQ, and Stedman and Terman confined their lower range to 140 IQ.

Whipple’s work in 1919 identified other tests helpful in selecting gifted children for special classes. These included the Thurstone Reasoning Test B, the Thorndike Reading Scale A, and the Courtis Arithmetic Series. Nevertheless, Terman’s Stanford-Binet remained the gold standard in terms of mental tests for identifying gifted students. “Superior mental endowment,” “a maturity beyond their years,” “early readers,” “youngest in class,” and “extremely studious” were various descriptors or characteristics commonly used by these researchers to explain the manifestation of giftedness in students.

Theoretical positions (i.e., those ideas restricted to the hypothetical) were not fully realized in any of these authors’ works. Still, the question begs, on what theory was the idea of

superior intellectual endowment based? The best explanation rests with that of individual differences, originally introduced by Francis Galton in 1869. Hollingworth, Terman, and Whipple all cited the work of Galton as a major determiner in explaining superior intellect (Hollingworth, 1924, 1942; Terman, 1922, 1930; Whipple, 1924). Additionally, none of these authors offered a theory of learning to account for superior mental ability. However Terman (1921) did state that “finding out what is demanded of intelligence and then analyzing the mental functions which meet the demand . . . is the only method of approach which will bring us nearer to a psychological solution of the intelligence problem” (p. 127).

Stedman, Hollingworth, Terman, and Whipple all remained confident in the science of psychology. They believed that the Stanford-Binet and other mental tests produced reliable estimates of a student’s mental function. The lower limits of giftedness ranged from 115 to 140 IQ, depending on the researcher. Through their work with gifted children, all recognized that gifted children exhibited intellect not only through specific academic skills, but also in the areas of leadership, the arts, and other creative endeavors. Along with the concept of giftedness initially offered between 1910 and 1940, leadership, creativity, and artistic abilities have been added to current definitions of giftedness. Terman and Hollingworth also believed that these abilities existed, but could not be adequately measured. In 1939, Hollingworth stated “Educational psychology works constantly to find ways of knowing how to identify these additional elements. It will be a long time before we

advance to a point where we can measure these as well as we can now measure intelligence” (Hollingworth, 1939a, p. 580). Consequently, instruments to measure these additional abilities exist today, but experts still struggle with ill-defined constructs and poor psychometric properties (Jolly & Hall, 2004).

The irony of many of today’s concepts of giftedness is that there are no appropriate measures to capture objectively the additional intelligences or behaviors included. Researchers like Terman and Hollingworth were uncomfortable with including such behaviors because intelligence, at that time, was the only trait they believed could be measured with any certainty. Contemporary researchers and practitioners cannot escape the legacy of these early pioneers, who conceded that giftedness was not limited to academic prowess, but could include leadership and creative pursuits. However, other forms of giftedness were overlooked because science had not yet developed measures to determine the degree of such talent appropriately. In his article “Three Faces of Intellect,” Guilford (1959) became one of the first researchers to propose seriously that the psychological and educational communities consider a multidimensional view of intelligence. His work allowed for contemporary theorists to offer models of giftedness that are more inclusive. Still, the definition of giftedness remained relatively static until the 1970s, when a formalized federal definition (Marland, 1972) emerged that included leadership and the arts as facets of giftedness. Despite these additions, the field’s reliance on intelligence tests remains a central criterion of giftedness when identifying students.

The integration of public policies and broadened conceptions of giftedness have changed the face of giftedness initially established by the research and practices of Stedman, Hollingworth, Terman, and Whipple.

Contemporary Definitions of Giftedness

Disagreement over a definition of giftedness still confounds the field of gifted education today. The federal government has issued its definition of giftedness, which individual states may follow, but are not obliged to do so. As of 2004, the federal definition is as follows:

The term “gifted and talented students” means children and youth who give evidence of high performance capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who require services or activities not ordinarily provided by the school in order to fully develop such capabilities. (P.L. 100-297)

Although an arbitrary IQ score for intelligence has been entirely removed from the federal definition, such scores are still used as a criterion for identifying giftedness at the state level. In a 2000 survey, 37 states, including

Connecticut, Georgia, Oklahoma, Florida, and Tennessee, all required either the top 5%, 99th percentile, or two standard deviations above the mean on standardized tests of intelligence as part of the criteria for identifying students. Pennsylvania was the only state to reference an actual IQ score of 130 or above. Other prevalent characteristics noted in state definitions included specific academic ability, creativity, leadership, and visual and performing arts (Stephens & Karnes, 2000).

The integration of public policies and broadened conceptions of giftedness have changed the face of giftedness initially established by the research and practices of Stedman, Hollingworth, Terman, and Whipple. Their original definitions relied largely on measures of intelligence and narrowly defined who would be identified: primarily White students from middle and upper class homes. Only within the last several decades has “the field attempt[ed] to divest itself from the classicism and racism associated with the notable portion of the research of the last century” (Friedman & Rogers, 1998, p. 20).

There has been a concerted effort to identify students traditionally absent from the gifted population, including racial minority students and those from low socioeconomic backgrounds. “Ford (1996) estimated that African American, Hispanic American, and Native American students were underrepresented by about 50% in programs for the gifted” (Ryser, 2004, p. 41). The most persistent form of identification comes from psychometrically sound instruments that remove the implied bias traditional measures of intelligence possess.

Instruments such as the Naglieri Nonverbal Ability Test (NNAT, Naglieri, 2003) and the Test of Nonverbal Intelligence (TONI; Brown, Sherbenou, & Johnsen, 1997) are intended to be used with students who are culturally different. “Areas of cultural identity are multifaceted and include not only national origin, but also religion, geographic region, urban/suburban/rural, age, gender/sex, class, and exceptionality” (Johnsen, 2004, pp. 15–16).

During the 1960s, the empirical study of creativity emerged after Guilford’s (1959) paradigm-shifting article. Hollingworth (1939b) had predicted that future psychometric advances could allow for the valid and reliable measurement of additional factors of giftedness (e.g., creativity). However, creativity has shown to be multifarious and perplexing. E. Paul Torrance, a pioneer in the study of creativity, conceded that no one single measurement could capture the multitude of ways that creativity can manifest itself (Davis, 2003), although this has not stopped researchers from attempting to capture creativity numerically. The federal definition of giftedness and theorists in the field agree that creativity is important, either as a separate form of giftedness or a fundamental part of general giftedness. Still, this agreement has not diminished the debate involving how to define, identify, and set educational policy accordingly (Piiro, 1998). The same argument can be applied to other areas such as leadership.

In an ongoing effort to achieve a more inclusive population of gifted students, contemporary researchers have offered conceptual frameworks to better explain giftedness and its multidimensional facets. Gagné’s (2003) Differentiated Model of Giftedness and Talent explains gifted-

ness using five separate elements: natural abilities (top 10% of age peers), intrapersonal catalysts, developmental process, environmental catalysts, and chance interacting (positively or negatively) to produce a talent or skill (top 10% of age peers). Tannenbaum’s (2003) Star Model tapers a “psychological filigree of factors” to explain giftedness: general ability, special aptitude, nonintellective requisites, environmental supports, and chance that can account for gifted behaviors. Sternberg’s (2003) Triarchic Theory highlights three elements of giftedness: analytical, synthetic, and practical. Analytical giftedness refers to academic knowledge and application typically measured by achievement and aptitude tests. Synthetic giftedness refers to creativity. Practical giftedness represents the ability to apply the analytic or synthetic giftedness to everyday problems. Within Sternberg’s three elements, problem solving and decision making are ongoing. Renzulli’s (2003) Three-Ring Model of Giftedness conceptualizes giftedness as three entities—above-average ability, task commitment, and creativity (all subject to environmental factors and the child’s personality)—working in concert to produce works qualitatively different from the norm. However, none of the above-mentioned facets within each model, with the exception of general intellectual ability, can be measured in any meaningful and psychometrically sound manner.

The legacy of Stedman, Hollingworth, Terman, and Whipple remains at the heart of the definition of giftedness and the necessity of a qualitatively different education for gifted students. Their research continues to inform the field of gifted education as it seeks an appropriate, agreed-upon definition or model for giftedness

nearly a century after its establishment. [GCT](#)

References

- Bagley, W. C. (1942). Guy Montrose Whipple. In N. B. Henry (Ed.), *The psychology of learning: The forty-first yearbook of the National Society for the Study of Education, Part II* (pp. 466–469). Chicago: National Society for the Study of Education.
- Brown, L., Sherbenou, R., & Johnsen, S. (1997). *Test of nonverbal intelligence* (3rd ed.). Austin, TX: PRO-ED.
- Davis, G. A. (2003). Identifying creative students, teaching for creative growth. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (3rd ed., pp. 311–334). Boston: Allyn and Bacon.
- Friedman, R. C., & Rogers, K. B. (1998). *Talent in context: Historical and social perspectives on giftedness*. Washington, DC: American Psychological Association.
- Gagné, F. (2003). Transforming gifts into talents: The DMGT as a developmental theory. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (3rd ed., pp. 60–74). Boston: Allyn and Bacon.
- Guilford, J. P. (1959). Three faces of intellect. *The American Psychologist*, *65*, 469–479.
- Hollingworth, L. S. (1917). The psychology of a prodigious child. *Journal of Applied Psychology*, *1*, 101–110.
- Hollingworth, L. S. (1922). Subsequent history of E; Five years after the initial report. *Journal of Applied Psychology*, *6*, 205–210.
- Hollingworth, L. S. (1924). Provisions for intellectually superior children. In M. V. O’Shea (Ed.),

- The child: His nature and his needs* (pp. 277–299). New York: The Children Foundation.
- Hollingworth, L. S. (1926). *Gifted children: Their nature and nurture*. New York: Macmillan.
- Hollingworth, L. S. (1927). Who are gifted children? *Child Study*, 5, 3–5.
- Hollingworth, L. S. (1928). The discipline of highly intelligent children. *Parent's Magazine*, 3, 19, 41–42.
- Hollingworth, L. S. (1931). How should gifted children be educated? *Baltimore Bulletin of Education*, 50, 195–198.
- Hollingworth, L. S. (1932). Recognizing gifted children. *The League Script*, 13, 7–9.
- Hollingworth, L. S. (1936). The founding of Public School 500: Speyer School. *Teachers College Record*, 38, 119–128.
- Hollingworth, L. S. (1937a). Bright students take care of themselves. *North American Review*, 243, 261–273.
- Hollingworth, L. S. (1937b). The importance of studying mental devices. *Journal of Consulting Psychology*, 1, 73–75.
- Hollingworth, L. S. (1939a). Problems in relationships between elementary and secondary schools in the case of highly intelligent pupils. *Journal of Educational Sociology*, 13, 90–102.
- Hollingworth, L. S. (1939b). What we know about the early selection and training of leaders. *Teachers College Record*, 40, 575–592.
- Hollingworth, L. S. (1942). *Children above 180 IQ*. Yonkers-on-Hudson, NY: World Book.
- Johnsen, S. K. (2004). Definitions, models, and characteristics of gifted students. In S. K. Johnsen (Ed.), *Identifying gifted students: A practical guide* (pp. 1–21). Waco, TX: Prufrock Press.
- Jolly, J. L. & Hall, J. R. (2004). Technical information regarding assessment. In S. K. Johnsen (Ed.), *Identifying gifted students: A practical guide* (pp. 51–105). Waco, TX: Prufrock Press.
- Marland, S. P., Jr. (1972). *Education of the gifted and talented: Report to the Congress of the United States by the U.S. Commissioner of Education and background papers submitted to the U.S. Office of Education*, 2 vols. Washington, DC: U.S. Government Printing Office. (Government Documents, Y4.L 11/2: G36)
- Minton, H. L. (1988). *Lewis Terman: Pioneer in psychological testing*. New York: New University Press.
- Naglieri, J. A. (2003). *Naglieri non-verbal ability test*. San Antonio, TX: The Psychological Corporation.
- Piirto, J. S. (1998). *Understanding those who create*. Dayton, OH: Gifted Psychology Press.
- Renzulli, J. S. (2003). Conception of giftedness and its relationship to social capital. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (3rd ed., pp. 75–87). Boston: Allyn and Bacon.
- Ryser, G. R. (2004). Culture-fair and nonbiased assessment. In S. K. Johnsen (Ed.), *Identifying gifted students: A practical guide* (pp. 41–49). Waco, TX: Prufrock Press.
- Stedman, L. M. (1919). An experiment in educational democracy. *Serra Educational News*, 15, 515–518.
- Stedman, L. M. (1924). *Education of the gifted*. Yonkers-on-Hudson, NY: World Book.
- Stephens, K. R., & Karnes, F. A. (2000). State definitions for the gifted and talented revisited. *Exceptional Children*, 66, 219–238.
- Sternberg, R. J. (2003). Giftedness according to the theory of successful intelligence. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (3rd ed., pp. 88–99). Boston: Allyn and Bacon.
- Tannenbaum, A. J. (2003). Nature and nurture of giftedness. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (3rd ed., pp. 45–59). Boston: Allyn and Bacon.
- Terman, L. M. (1906). Genius and stupidity. *Pedagogical Seminary*, 13, 307–373.
- Terman, L. M. (1915). The mental hygiene of exceptional children. *Pedagogical Seminary*, 22, 529–537.
- Terman, L. M. (1919). *The intelligence of school children*. Boston: Houghton-Mifflin.
- Terman, L. M. (1921). Intelligence and its measurement. *Journal of Educational Psychology*, 12, 127–133.
- Terman, L. M. (1922). A new approach to the study of genius. *Psychological Review*, 19, 310–318.
- Terman, L. M. (1924). The conservation of talent. *School and Society*, 19, 359–364.
- Terman, L. M. (1930). *Autobiography of Lewis M. Terman*. In C. Murchison (Ed.), *History of psychology in autobiography* (Vol. 2, pp. 297–331). Worcester, MA: Clark University Press.
- Whipple, G. M. (1919). *Classes for gifted children*. Bloomington, IL: Public School Publishing.
- Whipple, G. M. (1923). Provisions for gifted children. *Mother and Child*, 4(10), 2–11.
- Whipple, G. M. (Ed.). (1924). *The twenty-third yearbook of the National Society for the Study of Education, Part I*. Bloomington, IL: Public School Publishing.