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Review Article

No Child Left Behind and the Impact of Kurt Heller's Work

ABSTRACT: The No Child Left Behind Act (NCLB) was signed into law on January 8 in the year 2002. This law had a significant influence on all aspects of American education from pre-kindergarten up to grade 12. The basic intention of the law was: all children should have to meet quality standards that are assessed each year. The consequence was that teachers concentrated their attention especially to the slow and difficult learners. Consequently the fast and talented learners were neglected and school became for them increasingly a place of boredom. Boredom can produce a negative school motivation, or even worse it can kill motivation. Heller, on the other side, contributed as teacher and scientist in a substantial way for more than 4 decades to the well-being of all children, especially the talented and gifted learners. Some of his prominent achievements are highlighted in this article.

Keywords: The No Child Left Behind Act (NCLB), Kurt A. Heller, giftedness.

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INTRODUCTION

Many parents and teachers have problems with the education of gifted children. Often they are unable to understand the learning and developmental needs of these children. Most of these children seem to be very demanding and perfectionistic. They like challenges. A simple answer does not satisfy them, because they want to know all details. The consequence is that parents and teachers often feel helpless in educating gifted children. A good description of the educator's feeling of helplessness gives Gallagher & Weiss, 1979, (see FOREWORD) "He is the kind of a child a teacher dreams of having once in a lifetime. But now that we have him, we don't know what to do with him". This statement was probable true some decades ago. Apparently the description by Gallagher & Weiss was in accordance with the general feeling at that time. But in the meantime the knowledge and research concerning giftedness and educational/instructional practices improved and made significant progress. School legislation and teacher training has become, especially during the last decade, better in favour of gifted and talented children.

Progress in education takes time, because you have to change human minds. It is therefore indicative that William Stern came about 100 years ago to the following conclusion in the book, edited by Peter Petersen, *The Rise of the Gifted:* "In our schools we need provisions for enrichment and acceleration not only for the top 2% but although for another 10% gifted children" (1916, p. 106). This book, also relevant for the topics we discuss today, had absolutely no impact on the learning environment in schools. Because, policymakers were not involved. To make real progress in educational practices in our schools, we need cooperation between scientists, practitioners and policymakers. The *No Child left Behind Act* (NCLB) seems to be such a product.

In this article, I will briefly describe the history of No Child Left Behind Act (NCLB) and discuss the unintended, negative consequences of this Act for gifted children in the United States. Furthermore, I will juxtapose the effects of this legislation with the efforts of Prof. Dr. Kurt A. Heller to ensure that no child left bored. In considering the career of this leader in gifted education, it is obvious that his goal has been to ensure that the needs of all students be met, especially gifted students, so that truly no child is left behind.

The *No Child Left Behind Act* was signed into law by President George W. Busch on January 8, 2002. The law had a strong bipartisan backing by both the Senate and the House of Representatives. In those days Senator Ted Kennedy was an exhaustible advocate of this unique and influential law, which has had a significant influence on all aspects of American education in pre-kindergarten (PK) – grade 12. However, after a decade of experience there are many parents, teachers, legislators, and commentators who criticize NCLB. Although initially there was a strong support from the Democrats as well as the Republicans, three years ago (March 14, 2011), President Obama said he will seek reauthorization of NCLB only after substantial modifications are made.

An internet search provides a huge number of advantages and also disadvantages of this legislation. Interestingly, to note that all major teachers' Unions oppose NCLB. Some critics argue that the federal government has no constitutional authority in school education and that governmental involvement undermines state and local control over education of their children.

The proponents emphasize that NCLB is a federal law that makes it possible to improve the quality of American education in all schools by increasing accountability standards. Actually, NCLB was designed with the optimistic perspective to help students perform up to a certain standard, so that the general educational level of the whole country could be raised. The goal is that all students have to meet standards that are assessed each year. Annual testing for all students in grade 3-8, and annual state-wide progress objectives, should guarantee that all students reach a level of proficiency within 12 years, especially in language/reading and mathematics. Improvement in these two areas is the main objective. A consequence is that teachers almost solely concentrate on reading and math; other subject areas are neglected. In many cases, teachers are pressured by NCLB to do what is called ***teaching to the test.*** Assessment results and progress objectives are set equally for all students. I.e. that poverty, race, ethnicity, disability, and limited English proficiency should not be a hindrance, because *no group should left behind.* One of the serious consequences is that the struggling or disabled learner has to get the most attention from the teacher because he or she needs extra help. Apparently there is a strong feeling in certain groups and institutions that NCLB positively

influences the richness of a curriculum, as evidenced in headlines like *School Cut Back Subjects to Push Reading and Math* (The New York Times, March 26, 2006). However, it also potentially causes negative effects of neglecting the learning and developmental needs of *gifted and talented learners.* Gifted learners are often fast learners. When their fast pace is inhibited because of the need of teachers to focus on the average or struggling learners in the class, gifted children might become bored. In the attempt to leave no child behind, it is apparent that the learning and developmental needs of gifted students are frequently ignored.

Many teachers and scientists as well as parents of gifted children see the detrimental effects of NCLB. The negative outcome of NCLB for gifted children is increasingly addressed by specialists and also by journalists. E.g. Elizabeth Siemer "Bored Out of Their Minds: The Detrimental Effects of *No Child Left Bored* on Gifted Children" (Law Online Library – HeinOnline.Org.). Siemer describes well-directed the negative impact of NCLB on the education of gifted students.

Another critical and influential article was published by Sally Reis in 2007: "No Child Left Bored: How to Challenge Gifted and Talented Students with the Continuum of High-end Learning Opportunities". According to Reis, there are experiences which suggest strongly that attention for the gifted learner "has decreased in the years following the implementation of No Child Left Behind" (2007, p.1).

It is fair and essential that all children should get an education at home and in school which is in accordance with their ability. Both groups, fast and slow learners need differentiated instruction and guidance so that they can work at the optimal level of their abilities. Routine tasks and repetitive work is for gifted children a source of boredom. And boredom can become a motivation killer, can cause underachievement, and can result in inappropriate behaviour inside and outside the school. Ultimately, if a student is consistently bored, he or she may become a dropout.

In her 2007 article, Reis discusses instructional approaches for gifted and talented students. For students who are regarding cognitive competencies far ahead as compared with their age peers, it is a MUST that they get differentiated curriculum and instruction. Enrichment and acceleration are often necessary for gifted children to meet their advanced learning needs. There are several forms of acceleration, such as early school entrance, skipping a grade, early college entrance, and faster pacing in certain subject areas. Due to pressures of NCLB and the imperative to ensure that all students are working at least on grade level, these individualized and differentiated approaches are often difficult or impossible to realize. It is evident that differentiated curriculum and instruction are advantageous for all students, but for gifted students they are crucial for preventing boredom and the related problems.

Services for high-potential learners should include challenging curriculum content options. In USA, numerous research-based curriculum and instructional approaches have been developed with the support of the federal Jacob Javits Gifted and Talented Students Education Act[1] (Javits), including specific modifications for underserved populations (Stambaugh & Chandler, 2011)

Another possibility to challenge gifted and talented students is *curriculum compacting, i.e.* students who are advanced in a content area should have the opportunity to skip subject matter they have already mastered and can work on an advanced level.

Reis (2007) propose that teachers use the latest technical and didactical innovations to challenge gifted and talented students in the classrooms and ij gifted programs. Technology can provide students with many options for differentiated instruction. Online courses, such as those offered by the Stanford University, enable students to take advanced courses through a distance learning model. For a valuable overview and evaluation see Simpson (2012[3]).

"An online program called the Renzulli Learning System (www.renzullilearning.com) provides a computer-based diagnostic assessment and then creates an individual profile of each student's academic strengths, interests, learning styles and preferred modes of expression" (Reis, 2007, p. 3). It is obvious that email, wikis (wiki=fast; simple and fast Content

[1] The Jacob Javits Gifted and Talented Students Education Act (Javits) was originally passed by Congress in 1988. The annual funding was in 1989 $ 7.9 million, and in 2009, 2010 and 2011 $ 7.46. The definition of giftedness is in the Javits Act as follows: *Students, children, or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services and activities not ordinary provided by the school in order to fully develop those capabilities.*

Management Systems (CMS), and blogs can allow students to collaborate with professionals and peers world-wide.

Learning in school is always associated with achievements and grades. Achievements are the outcome of processes. Critical thinking and judging, creative, divergent and productive thinking are typical processes included in programs for gifted and talented students. Reproductive and convergent thinking, which are the forms usually required in our schools, are the opposite of these processes. Creative and independent thinking are generally not expected and not stimulated in our schools. But exactly those thinking styles are characteristic for the behaviour of gifted individuals. The lessons in schools predominantly emphasize reproductive thinking in addition to endless repetitions ("drill and kill"). For gifted students is that a source of boredom and become a killer of school motivation. School courses and lessons should meet gifted student's divergent and productive thinking needs, through challenging and goal-oriented activities.

Parents and teachers often do not know what extraordinary capabilities their children possess. The following example aptly illustrates the lack of understanding about gifted children's needs that many teachers – and also parents – may have. A math teacher with more than 20 years of professional experience told me after he finished the European postgraduate program *'educating the gifted'* the following. This upgrading course offered by the universities of Nijmegen (The Netherlands) and Münster (Germany) includes about 750 hours theoretical and practical training. Participants receive after successful finishing the course-work a diploma. This diploma entitles the holder to be recognized as *'Specialist in Gifted Education'*.

The teacher said: "this upgrading course was a real eye opener for me. Only now I see what kind of creative and independent thinking children I have in my class. Only now I see and recognise how well these children can think, argue and verbalize"

Giftedness manifests itself prior to when the child enters school. Gifted children are already independent thinkers in early childhood. The following example demonstrates that: A girl barely one and a half years old likes to watch what is happening on the street. The family lives on the ground floor. Every day an old lady with a dog walks along and greets the child. On a cold day in the fall the lady wears gloves for the first time. With fascination and thrill the girl watches the hands of the lady, because she had never seen her wearing gloves previously. She asked her mother to come and to look. She said, "Look mama, this lady wears gloves and therefore her hands are not cold". The little girl looks expectantly at her mother, who nodded and said "What a good observation!" The mother knew from other occasions how sharp and how creatively her daughter could observe and judge.

This child demonstrates by this and other observational statements that she is able at a very early age (1½ year!) to perceive and to name causal relationships. This kind of independent thinking often disappears when these children enter the elementary school. Learning in the elementary school is often predominated by reproductive thinking; the child has to give the correct, the right answer. Creative and independent thinking are usually not expected and not stimulated in the elementary school.

In the year 1936 the influential Dutch psychologist Luning Prak wrote in his book *The Gifted Child*: "the calendar dogma is for these children (gifted students) absolutely not relevant". It is obvious that our interactions with children and adolescents are often determined by vague norms which stem from the chronological or calendar age. To be able to read at the age of three or four is not typical, is not in accordance with the age. However, gifted children often show at the age of three or four a spontaneous interest in reading, writing and also mathematics. If this drive or motivation is not suppressed, these children will indeed learn to read and to write at a very early age. It is evident that it is not easy for elementary school teachers to cope with these precocious children, but all children – also these precocious children – need instruction and education in school which is consonant with their abilities. The eagerness to learn and to be interested in many things at an early age is often for parent a worrisome factor, as they tend to stick to the calendar dogma. As we know, already many decades ago the Dutch psychologist Luning Prak (1936) pointed out that such an attitude is wrong and can be an inhibiting factor for the healthy development of a child.

Responsiveness is one of the most important educational matters, especially with young children (Juffer et al., 1997). It is important that we respond to the spontaneous learning and developmental needs of children. Gifted children – especially in the early years –

show needs which cannot be judged against chronological age norms. If a child of two or three points at letters, which means "please explain it to me", then it is a correct reaction when the parent indeed gives an explanation. The educator/parent shows responsiveness by responding to the signals of the child in an appropriate way (see Mönks & Ypenburg, 2011; 2012).

It is possible to avoid the previously described negative outcomes for gifted children and adolescents. Research results buttress claims that specific educational accommodations must be made for gifted students in order to attain their potential. A pioneer and giant in this regard is Prof. Dr. Kurtz Heller from the University of Munich (Germany). Therefore it is a matter close to my heart to describe some of Heller's outstanding achievements.

When we met for the first time in 1972 during an international conference of psychologists in Tokyo, we had no idea how extensively and closely we would cooperate in the following years. There was first the huge project of the *International Handbook of Giftedness and Talent* at the end of the 80s and the beginning 90s (Heller et al., 2000[2]). He initiated it, and together with Harry Passow and me, it was realized. This handbook was an extremely important contribution to the field of giftedness and gifted education; because it represented the first collection of chapters describing theoretical approaches to giftedness and gifted education provisions around the world. The worldwide communication in those days was dependent on telephone and telefax, as electronic communication did not exist. Therefore, the collaboration of three individuals living in three different countries was quite challenging in the logistical sense. Our cooperation was not only characterized by a congruent matching of scientific quality standards but also by efficiency, mutual confidence, reliability, and a high sense of responsibility. The first edition was published in 1993 and the second completely revised edition was published in the year 2000 (Heller, Mönks, Sternberg & Subotnik, 2000[2])

Heller spearheaded the Munich Longitudinal Study of Giftedness and Talent (Perleth & Heller, 1995[2]). This was one of the first longitudinal studies on giftedness in Europe. Heller initiated the idea, chose a collaborative team, and conducted the research. Out of this work, he developed the Munich Model of Giftedness (see Perleth & Heller, 1995[2]).

During the fourth conference of the World Council for Gifted and Talented Children (WCGTC) in Hamburg (Germany), Heller acted as a productive presenter. He turned out to be a passionate speaker defending gifted education against political opponents. The public discussion that ensued was a memorable one that participants still remember.

Heller has always been a strong and powerful advocate for equal chances for both sexes. He could not believe that girls possess lower achievement potential for STEM (Science, Technology, Engineering, and Mathematics) than boys. So far research outcomes have made it clear that girls have a rather negative self-concept regarding STEM disciplines. In response, he developed reattribution training for girls which turned out to be very successful (Heller & Ziegler, 1996).

A worldwide unique project in which Heller was instrumental was the *Hector Study*. He was responsible for the design, the scientific supervision and for the evaluation components. It was a longitudinal intervention project that lasted for eight years and culminated with a closing conference on March 4, 2010 in Karlsruhe, Germany. I was invited to that conference and I agreed to give a presentation with the title "*The Hector Study in the International Context"*. My preparatory work made very soon clear to me that there had not been a comparable study conducted previously in gifted education. Only the longitudinal Study of Mathematically Precocious Youth (SMPY) initiated by Julian Stanley in 1971 at Johns Hopkins University (for more information: https://my.vanderbilt.edu/smpy/contact/ or contact rachel.a.morgan@vanderbilt.edu). This study allows some comparisons with the *Hector Study*.

Both are longitudinal studies with a different duration. SMPY has existed already more than 40 years. The researchers Camilla P. Benbow and David Lubinski (Vanderbilt University) are planning to complete a 50-year longitudinal study of five cohorts, consisting of over 5.000 intellectually gifted individuals. The Hector evaluation study finishes after eight years in 2010. SMPY is a developmental study and has no interventions. The Hector Study had interventions that included more than 400 persons and a control group that included more than 300 persons. Both are longitudinal studies and make it possible to make statements about developmental processes and changes of individuals and groups. The SMPY study can

give empirically based information about the choices of university study and about professional careers, about professional success and failure, about life satisfaction, about family life and or life with a partner. The Hector Study could not yet generate information concerning success and failure as students or professional practitioners. Both projects included the top 1% of gifted individuals in STEM areas.

The Hector Study was basically an intervention study "to enable students in the STEM areas to think independently and to work scientifically" (Heller, 2009, p. 54). Furthermore, it was an evaluation study with distinct formative and summative evaluation functions. In short, the Hector Study investigated intervention effects. The results made it possible to unroll massive "developmental respective intervention gains for the basic competencies in the 'hard' natural sciences and technology. Furthermore, an ongoing gain in mathematics was evident when an accumulation effect (Matthew Effect) over the measurement time span became apparent" (Heller, 2009, p. 278). Another important, but not obvious result, was "that girls profit more from the intervention program than their male counterparts in their cognitive achievement development" (Heller, 2009, p.229).

For almost five decades, more than half of his life, Kurt Heller has worked in the field of giftedness and talent. His scientific passion regarding giftedness and talent became a lifelong driving force which was already apparent in his PhD dissertation (see Heller, 1966). Only with passion, the highest expression of motivation is it possible to push forward a research agenda in a time when the circumstances and the 'Zeitgeist' were not in favour of giftedness. Strong goal orientation and a high level of endurance are essential personality characteristics for such a risky venture. Concepts like "gifted" or "highly gifted" were nasty words in the 60s. The central question in those days was: Are there actually gifted individuals? Hidden giftedness, a favoured slogan in the 50s and 60s, had to be detected first, according to Heller. The beginning of his scientific career is closely associated with the concept of "hidden giftedness" (Heller, 1966; 1969; 1970). Insistently and with great personal dedication about fifty years ago he gave a complete and critical analysis of the then heavily discussed issue of "hidden giftedness".

The topic of giftedness would remain a permanent part of his career. Heller has been not only involved in gifted education research and programming, but has also in a substantial way given direction to it. He gave an impressive overview in the year 2008 in his book Von *der Aktivierung der Begabungsreserven zur Hochbegabtenförderung – Forschungsergebnisse aus vier Dekaden (The activation of gifted education – research results of four decades)* (Heller, 2008). The book includes a variety of topics, from theory to practice, from methodological issues of giftedness research to areas of application, i.e. identification, consultation and programming. He includes traditional giftedness research as well as creativity and expertise research. The construct 'creativity' has in almost all temporary models of giftedness a central position. Heller discusses it thoroughly and critically in the book. The topic of identification and related questions are permanently objecting of discussion, because it is strongly associated with the theoretical position of the scientist or practitioner. Heller approaches the topic from the perspective of describing the essential knowledge and skills needed by teachers working with gifted students and attempting to identify them.

Furthermore, Heller gives in his book of course extensive attention to STEM initiatives. In 'research results from four decades' he regards it a crucial matter to discuss critically the Trends in International Mathematics and Science Study (TIMSS) and the Program for International Student Assessment (PISA studies). He paid special attention to the question about what consequences should be taken regarding the partly embarrassing results for Germany.

Heller demonstrates the importance of STEM education also in the special issue of *The Journal for Gifted Education (Journal für Begabtenförderung)* (1/2011). He edited this special issue together with Dr. Dieter Hausamann. In this special issue, among other topics, examples are given regarding how early gifted STEM talents can be properly stimulated within and outside the school.

In his work, Heller also addresses group and individual consultation with gifted children; the need for consultation is increasingly growing. He proposes also that information about identification, consultation, and programming for gifted and talented children should be included in the curriculum for the basic training of teachers and psychologists.

In the FOREWORD of Heller's 2008 book I stated: "We can conclude that also after four decades there is still enough to do regarding the

realization of differentiation. Because, differentiation is the core issue of gifted education. This book can give an essential contribution for the removal of the 'Zeitgeist' which for a long period blocked and denied giftedness and especially gifted programs. Giftedness needs a broad societal and political platform. With this backing the 21st century could become a century of individualization; each individual should get the possibility to develop his/her abilities in an optimal way" (Mönks, VII; in Heller, 2008). Heller's career has made an essential contribution to that end.

In the beginning of this article I emphasized that boredom can become for gifted and talented students a source of different kinds of misbehaviour and it may even lead to despair. The American government had the intention to improve with the NCLB Act the quality and the level education in schools. Experts in gifted education, however, pointed to the imbalance that was produced through NCLB. When more attention is given to moderate and slow learners, less is given to gifted and talented students; school becomes for them a source of boredom. All children and adolescents should feel comfortable in school and should enjoy going to school without the negative experience of boredom. The scientific and practical work of Kurt Heller, which covers almost five decades, could be considered a large-scale operation against boredom. He achieved research outcomes and developed, applied, and evaluated gifted programs so that a preventive spectrum against boredom could emerge. His work is a testimony that no child should be left behind, nor should any child be left bored.

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