



# Education Looking Backward: Maxim Vengerov Shows It Might Just Be to Our Advantage

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## *Abstract*

The twenty-first century poses new challenges for educational professionals. They must prepare students for the new century and provide them with the appropriate skills: twenty-first century skills. A common assumption is that these skills can be attained by new educational methods, using the pedagogy of the new century. This pedagogy is tied, *inter alia*, to a transfer from "teacher centered" teaching, which is perceived as leading to superficial and shallow learning, to "student centered" teaching methods which are considered as leading to deep and significant learning. The present article contemplates this change and wonders whether we may also use older teaching methods to achieve these skills. In order to support this consideration, the article investigates teaching methods common in places distant from school classrooms – musical master classes. These are places where learning takes place, where teaching takes place, where perhaps there is no place more characteristic of a "teacher centered pedagogy" and, lo and behold, a place where deep and significant learning is created for the future generation of stars of the world of music.

Keywords: twenty-first century skills; teacher-centered pedagogy; student-centered pedagogy; twenty-first century pedagogy; master class



A picture:

A classroom. Twenty-four students. The bearded teacher sits on a raised platform. An open book is in front of him. Opposite him, in four organized rows, sit the students. The room is too small to hold all of them so three are sitting beside him. In the first row, closest to the teacher sit all of the nerdy students, those who want to listen, who want to be good students, who care. Their textbooks are opened to the right page. Some are peering at their books, others are focused on the teacher, thirstily drinking in his words. But even in this row, the nerdy row, there are two who haven't brought their books (and they don't even bother to ask students with books to have a look). It would be interesting to see how the teacher will react. Will he punish them? Lower their marks? But perhaps they were not present during the last lesson when the teacher requested that the students bring books. That isn't clear.

The more we distance ourselves from the front of the classroom, the worse it looks for the teacher and perhaps the better it is for the students. In the second row, too, most of the students are attentive, with books in front of them, except for the one sitting at the end of the row. He doesn't have a book and it appears that the lesson has left him totally bored. He is staring at the friend on his right, trying to attract his attention. He doesn't seem to be succeeding. A nerd remains a nerd.

In the third row attention has really flagged. Only one student has his book open. Another has chosen to summarize the teacher's lesson in his notebook. Or maybe he is doing his math homework. (Perhaps the next lesson is math.) At the end of the row one of the students has already retreated into slumber. His head is resting on his arms and his body is tilted to the side. Maybe he is already deeply asleep as the monotonous voice of the teacher provides a kind of lullaby. Next to him, his friends are turning to each other and talking with no fear of the teacher's reaction. And at the back of the class, in the last row, a party is going on. That's where the "juvenile delinquents" are sitting. One of them has already stood up to converse with his friend. The lesson just doesn't interest him. But that doesn't seem to bother the teacher. Even if it does, perhaps he is not willing to try to deal with the student. It's just not worth the trouble. It would turn into a power struggle and he might not come out on the winning side. The teacher would tell the student to leave the class and the student would answer that he didn't want to leave; the teacher would respond that he would not continue the lesson until the student left, and the student would continue to refuse. The teacher would say that he would call the principal... and it would all end badly. So the teacher has decided not to even go into it. He is right.

When I read this description to Naomi and Shira, my ninth grade daughters, they reacted with: "That's about what happens" and Tamar, my life partner, who long ago completed her schooling said "That's school!" Their reactions were not surprising. I assume that all of you, my readers, could find yourselves and your friends somewhere in this description, as you look back with nostalgia to your schooldays. That's exactly how the classroom looks in tenth grade history lessons or in ninth grade English lesson, or in eighth grade geography lessons, or in biology lessons of those just completing high school. In fact, that's how classrooms usually look. That's how classes look at the end of the twentieth century and the beginning of the twenty-first, but that's how they looked long ago as well.



The picture I described is very very far from the present. It was painted by Laurentius de Voltolina and depicted the teacher Henry of Germany in a lesson to students of the University of Bologna. That was long ago. Apparently in the mid-fourteenth century, almost 700 years ago. Criticism of education is as old as education itself. Criticism of education is usually perceived as continuous, ever demanding that the educational system suit itself to the ever changing society in which it is operating (Horn, 2002: 1). Today this is probably all the more true, considering the deep social and cultural changes taking place in Western society during the past decades. Statements like: "The most dangerous experiment we can conduct with our children is to keep schooling the same at a time when every other aspect of our society is dramatically changing," made by Chris Dede of Harvard University School of Education and used as a motto in a wide variety of research articles on education, are to a great extent the "pillar of smoke" followed in present day education.



The words "twenty-first century" star in very very many of the titles of these research studies. They usually go on to present the turn of the century as a watershed between "before" and "after". That what was correct and plausible before the twenty-first century is no longer relevant, outdated, unsuitable, inappropriate, and must be discarded. The twenty-first century is more challenging than those which preceded it, these studies argue, and to deal with its challenges, the student must be equipped with a new and different set of abilities which the educational system should provide. These are termed "twenty-first century skills". A Google search presents almost 25 million hits for this term. But despite the large number of references, ultimately there are many agreements between education experts and education practitioners regarding the nature and essence of these skills, and to a great extent, they echo one another, and in particular, Tony Wagner, who is perhaps their most enthusiastic and fluent spokesperson (Wagner, 2008). They maintain that students must learn to think out of the box – interdisciplinary thinking (Wallis & Steptoe, 2006); that they must develop cross-cultural understanding (Trilling & Fadel, 2010: 176); that they must be creative and innovative (Binkley et al., 2012); that they must be equipped with critical thinking and problem solving skills (Beers, 2011: 21); that they must know how to work collaboratively in a team (American Association of Colleges and Universities, 2007: 3); that they must have information literacy (Thomas, Crow & Franklin, 2011: XIV); that they must know how to inquire and analyze (Coffman: 2012: V); that they must have written and oral communications skills (Hilton, 2010: 21); that they should acquire cultural awareness (Goodwin & Sommervold, 2012: 36); that they have to be agile and adaptable (Collins & O'Brien, 2011: 478); and that they ought to have initiative and entrepreneurialism (Jacobs & Gorman, 2012: 5). Students should be endowed with all of these skills and more, to be ready for the challenges of the twenty-first century.

And how will they acquire these complex abilities? How will their learning take place? How will their teachers impart these skills? The answer to these questions is complicated. The relevant literature and research is very extensive and filled with disputes, even regarding the cornerstones of the discipline (Illeris, 2009). It is continually advancing; it is rife with argument and contradictions, grappling and licking of wounds, and pats on the back. Many impulsive acts. But nevertheless, if we want to make one or two generalizations about how research envisions the conquest of all these peaks of ability, we may roughly refer to a transfer from "teacher-centered pedagogy" which was customary until the twenty-first century, to a pedagogy which may generally be termed "student-centered" (O'Neill & McMahon, 2005: 28).



Although the research tends to attribute a variety of meanings to "teacher-centered pedagogy", it may be said that the passivity of the student, on the one hand, and the activity of the teacher on the other, are perhaps the most pronounced characteristics of this pedagogy (Mascolo, 2004: 4). That is exactly the way Henry of Germany was teaching the students at the University of Bologna 700 years ago. And it is also the way subjects are taught in present-day schools (Johnson et al., 2009: 7). A common metaphor to describe this type of learning is the "container metaphor" which describes "transferring material" from the teacher, "the full container", to the student, "the empty container". To this end, teachers process the material into "packages of knowledge" – lesson plans – which are meant to penetrate into the openings in students' heads. These opening are not infrequently blocked and shuttered. In order to open the shutters, teachers try to arouse the student's motivation to learn: praising, censuring, energizing, tempting, and threatening. Now that the shutters have been opened and the prepared content has penetrated, the teachers drill the students to "glue" the new content to the old content which has already been learned (Strauss & Shilony, 1997). The fact that both Henry of Germany as well as many of the teachers at the beginning of the twenty-first century use the same pedagogical platform worries and concerns educators, and not only them. These concerns result in calls for reform. They lead to reports like that of the National Commission on Excellence in Education, "A Nation at Risk: The Imperative for Educational Reform"(1983). Attempts at reform like "No Child Left Behind (NCLB, 2001). And draw millions to watch the lectures given by Ken Robinson in "TED" on the need for change in the educational system.

These educational reforms call for a kind of Copernican revolution in education, demanding a change in the fundamental practices: from teacher-centered pedagogy to student-centered pedagogy. In the spirit of the theory of constructivist learning, from which they spring, these reforms call to shake the student from his passivity and turn him into an active learner, examining himself reflectively (Prince, 2004; 223). Or put differently, they demand thinking about teaching and learning as processes which center on the activity and responsibility of the learner toward the learning, rather than on content or on the actions of the teacher (Cannon & Newbie, 2000: 16-17). Or in other words, they view learning as "an active process in which learners are active sense makers who seek to build coherent and organized knowledge" (Mayer, 2004: 14).

In this spirit, a variety of teaching methods have been developed which translate these calls for revolution into practices in the classroom. These include problem based learning; student-activating teaching methods, discovery learning; the minimal guidance approach; powerful



learning environments, project-based learning; collaborative-cooperative learning, case-based learning and others. In this variety, perhaps there is evidence that the conception of "student-centered learning", has a range of ambiguousness and lack of clarity (Lea, Stephenson & Troy), and because of this, there are also many and varied ways to attempt to implement this pedagogical vision. But running like a scarlet thread through all of these methods is the assumption that this is the way to create meaningful learning, deep learning, quality learning (see for example Greening, 1998), which will enable the student to attain the skills necessary for the twenty-first century. This is in contrast to teacher-centered learning which cannot create this type of learning, but rather produces surface shallow learning, which is not meaningful, and which is not high quality. And I would like to raise the question of whether that is true. I would like to place a question mark around the present directions of reform, directions which argue that Henry of Germany is an unsuitable teacher, and that his students' learning is surface shallow. And that the teaching and learning methods he uses have no place in the twenty-first century. (That question mark does not in the least bit deny the value and importance of a pedagogy which places the pupil at the centre).

I would like to import this question mark from distant regions, far from the classroom, from regions where both teaching and learning take place, but which are situated outside the school borders. I wish to import it from the musical master class. A master class is a public teaching and learning event. A lesson is given to the student, usually an advanced student, by a musician who is an expert in his/her musical realm. Unlike a normal lesson, all of the students in the class (and usually guests who accompany them) watch and listen as the musician teaches one of them. As in every social procedure, there is usually a fixed ritual structure: The student plays a piece which s/he has prepared in advance (generally with his/her teacher). The master musician reacts to the performance, makes comments and gives advice. The student tries to implement the master's remarks and advice in a repeat performance of the piece. The musician gives feedback on this attempt and the student tries to internalize the musician's remarks and this continues until the end of the class (Han Ken, 2008: 27).

A master class is an inseparable and important part of conservatorium culture. It holds a central place in the traditional curriculum of the teaching departments of music education institutions (Long et al., 2011: 648) and in the present training courses of classical musicians. Everyone recognizes its importance but, in contrast, research of master classes is particularly meager (Creech, Gaunt, Hallam & Robertson, 2009: 213) and most of it is located within the borders of musical education. In this article, I suggest looking at master classes as places where teaching and



learning take place, and trying to extract insights from them about a much wider range and scope than the world of music: insights about what takes place in school classes, and its relevance to the dichotomy previously pointed out between teacher centered pedagogy and pedagogy with the learner at center. As far as I know, this is a pioneering attempt and it appears that we are likely to benefit from it.

To this end, I would like to step into the room and take a peek at the master class of Maxim Vengerov. Maxim Vengerov, a native of Novosibirsk, born in 1974, is today one of the leading violinists in the world, and apparently one of the most exciting. In recent years he has divided his time between playing and conducting in the concert halls, and education and teaching. He dedicates his efforts to making music accessible to the widest and most varied publics that he can (so, for example, in 1997 he was the first classical musician to be appointed Goodwill Ambassador by the United Nations International Children's Emergency Fund - UNICEF) and to supporting, encouraging and fostering the violin generation of the future. He now serves as professor of violin at the Royal Academy of Music in London where he teaches; he has innovated and implemented the Migdal Project in Israel to encourage children of disadvantaged populations to play instruments; he is a permanent judge at instrument playing competitions and at auditions for these competitions; he is an ambassador and visiting professor at the International Menuhin Academy (IMMA) in Switzerland; he conducts rehearsals which are open to the general public; and he teaches many master classes.

In 1998 British Channel Four Television produced a film which was first shown at the Cannes Television Festival called *Playing By Heart* ([http://www.youtube/watch?v=w\\_F15yU4AYM](http://www.youtube/watch?v=w_F15yU4AYM)). The film is a kind of biographical journey back and forth through Vengerov's life and it illuminates the different facets of his activities. It tries to clarify what makes Vengerov such a unique phenomenon, so different and exhilarating, in the world of classical music. Integrated in the film, *inter alia*, are two segments from a master class he taught at the Royal Academy of Music in London and I would like to examine them. The first (06:00-11:45) is a lesson based on a violin work by the Austrian violinist and composer Fritz Kreisler (1875-1962), Chinese Tambourine, played by Michael. The second (41:05-46:20) is a lesson focusing on a work by the Paris-born French composer, Camille Saint Saens (1835-1921), Introduction and Rondo Capriccioso, played by Sarah.

As is tradition in a master class this one begins with pieces prepared by Sarah and Michael, each in turn, played for Vengerov and for the audience. Vengerov listens to them with the greatest of concentration. He virtually "consumes" them with his gaze. He and the audience applaud their



playing. Now it is Vengerov's turn. As a teacher, he tries to improve their versions of the pieces. Vengerov's teaching tries to lead the student to his own musical interpretation of the pieces as expressed in his comments and demonstrations. This interpretation is very evasive. It is difficult to grasp and to transmit. So Vengerov constructs an eventful story, usually dramatic. He leaves aside technical difficulties and the accuracy of the student's playing, and does not dwell upon the smaller details. He takes an aerial view of the music and speaks of music globally. This apparently can only be done with a story. When he requests that Sarah provide a bit of contrast at a certain point in her presentation, this relates to interpretation. When he asks Michael to be "rougher" in one of the transitions, that is also a matter of interpretation. When he asks Sarah for more restraint, it again involves interpretation. Musical interpretation. He leads the two to carry out his own personal interpretation. Patiently, time and again, and again, until they succeed or at least come close to succeeding. Vengerov implements the style of teaching Donald Schon calls "follow me" (1987: 212), a style which echoes its name. It grants complete dominance to the teacher who directs the student by instructions and demonstrations of the correct performance and the "right" interpretation of the piece. In fact, this teaching model directs the student to achieve this interpretation by imitation. And imitation as a teaching method sounds bad to the ears of those dealing with education in the twenty-first century. It is perceived as an inferior way of learning.

Pablo Casals, the noted Catalan cellist, was once asked if he thought a student might have a good idea of his own, an idea deserving of estimation, that he might adopt to intensify the expressive ability of his own personal interpretation. He then "jumped up excitedly and went to the wall. 'No!' he said, 'the student must be like an apprentice. The master draws the line, and the student retraces it'. He made a gesture with his arm, drawing an imaginary line along the wall... One of the memorable phrases he liked to use was "a good imitation is better than a bad original" (King, 2010: 250).

The American cellist Bernard Greenhouse, describes a master class with one who had adopted this educational method, Casals himself: "We spent at least three hours a lesson. The first hour was performance; the next hour entailed discussion of musical techniques; and the third hour, he reminisced about his own career. During the first hour, he sat about a yard away. He would play a phrase and have me repeat it. And if the bowing and the fingering weren't exactly the same as his, and the emphasis on the top of the phrase was not the same, he would stop me and say, "No, no. Do it this way'. And this went on for quite a few lessons. I was studying the Bach D-Minor Suite and he demanded that I become an absolute copy. At one point, I did very gingerly



suggest that I would only turn out to be a poor copy of Pablo Casals, and he said to me, 'don't worry about that. Because I'm seventy years old and I will be gone soon, and people won't remember my playing but will hear yours'. It turned out, of course, that he lived till the ripe old age of ninety-seven. But that was his way of teaching...He was extremely meticulous about my following all the details of his performance. And after several weeks of working on that one suite of Bach's, finally the two of us could sit down and perform and play all the same fingerings and bowings and all the phrasing alike. And I really had become a copy of the Master. It was as if that room had stereophonic sound – two cellos producing at once" (Delbanco, 1991: 39-40).

Casals leads his student to imitate him, as does Vengerov, and that is what usually happens in a master class: The student is led to imitate his/her teacher. It is a learning process of which it would be difficult to imagine another so saliently, so perfectly epitomizing a teacher-centered educational pedagogy. But it becomes clear that this is also a very meaningful learning process for the student. This is how Michael testifies to the experience of learning with Vengerov: "This has definitely changed my way of playing this piece and other pieces as well. He has a very vivid imagination so he can make all music into an incredible drama...This piece has a couple of tricky technical problems and it has a lot of double stoppings which means that I have to play two notes at the same time. And that was something I was really worried about. And I thought that he would start to say something about the technical problems because that's what you usually expect. But no, he started to talk about the music. By pointing out the expression of the music he got my attention away from those technical problems. In fact, he made me play a lot better technically". And Sarah testifies: "I've played the piece quite a lot so I'm getting tired of it. Of course, having worked with Maxim, it's a new piece for me now. It really is." And all research, almost without exception testifies to this: "Master classes can be life-changing events" (Lalli, 2004:24) or "Overall, master classes represent a rewarding but complex platform for developing musical performance" (Hanken & Long, 2012: 17), to mention just two evaluations.

In the pedagogical terms of the twenty-first century, there is a kind of paradox here: learning by imitation which produces meaningful learning. How can imitation serve as a springboard to develop expressive abilities and personal interpretation? How can a student enhance personal expression skills and develop musical independence with a powerful teacher who demands that the student imitate him/her? How is this possible?

We may cite several explanations to deal with this difficulty: Some propose seeing imitation as only the first step in the learning process, a step in which the student consciously relinquishes his/her freedom and devotes him/herself to imitation of the teacher in order to attain new



insights which can be implemented as the process continues. (That is what happened to Bernard Greenhouse later in his lessons with Pablo Casals, and their progress is surprising. The reader is invited to satisfy his/her curiosity in Schon, 1987: 177-179). Another possible answer can be obtained from those who try to undermine the stigma attached to learning by imitation as inferior learning which is somewhat childish. They relate to the cognitive complexity involved in this type of learning (Hurey, 2004: 166) which is supposed to weaken the apparent tension in meaningful learning by imitation. A similar direction of emphasizing the importance of imitation as a model of learning arises from the greatly influential research of Albert Bandura who tries, for example, to blur the dichotomy between imitation and what is usually presented as its antithesis – innovation (Bandura, 1986: 104). Whatever the explanation, for the argument presented here it does not matter. What is important is the very fact that it takes place: that the pedagogy of imitation, which places the teacher at the center, has created meaningful learning.

The master class as a teaching method originated in the middle of the 1850s by Franz Liszt in the music room of his home in Weimar, Germany (Walder, 2012: 36). At the turn of the twenty-first century, although I strain my ears, I do not hear voices in music schools calling for the abandonment of this method of teaching which more than 150 years old is. The opposite is perhaps true. The method is planted deeply in their music curricula. Perhaps not only young musicians may be trained to play their instruments in the twenty-first century by using longstanding teaching methods? Perhaps school children may also be trained to meet the challenges of the twenty-first century when they are not necessarily active? Perhaps pedagogy which grants the teacher dominance in the classroom is still relevant and it makes no difference "how old" this pedagogy is? Perhaps we may prepare our children for new challenges by also using older teaching methods? Maybe we are running forward too quickly and out of distraction, we are leaving appropriate teaching strategies behind us? Just food for thought.

### ***Bibliography***

American Association of Colleges and Universities. (2007). *College learning for the new global century*. Washington, DC: AACU.



- Armbruster, P., Johnson, E., Patel, M. & Weiss, M., (2009). Active learning and student centered pedagogy improve student attitudes and performance in introductory biology. *Life Sciences Education*, 8: 203-213.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall
- Beers, S. (2011). *Teaching 21st Century Skills: An ASCD Action Tool*. Alexandria, VA: ASCD.
- Binkley, M., Erstad, O., Herman, J., Raizen, S., Ripley, M., Miller-Ricci, M., & Rumble, M. (2012). Defining twenty-first century skills. In P. Griffin, B. McGaw, & E. Care (Eds.), *Assessment and teaching of 21st century skills*. Dordrecht, Germany: Springer.
- Cannon, R. & Newble, D. (2000). *A Handbook for Teachers in Universities and Colleges: A Guide to Improving Teaching Methods*. 4th ed. Kogan Page: London.
- Collins, J.W., & O'Brien, N.P. (Eds.) (2011), second edition *The Greenwood Dictionary of Education*, Greenwood: Westport, CT.
- Coffman, T. (2012). *Using inquiry in the classroom: Developing creative thinkers and information literate students*. Plymouth UK: Rowman & Littlefield Education.
- Creech, A., H. Gaunt, S. Hallam, and L. Robertson (2009). Conservatoire students' perceptions of master classes. *British Journal of Music Education* 26, no. 3: 315-31.
- Delbanco N. (1991). Judgment: An Essay. In: .R. Pack & P. Jay (Eds.) *Writers on Writing*, Hanover, NH: Middlebury College Press, 1991. 29-40.
- Goodwin, M. & Sommervold, C.(2012). *Creativity, critical thinking and communication: Strategies to increase students' skills*, Lanham, Maryland: Rowman & Littlefield Education



- Hanken, I. M. (2008). Teaching and learning music performance: The master class. *Finish Journal of Music Education*, 11, (1-2), 28-38.
- Hanken, I.M. & Long, M. (2012). *Master classes – What do they offer?*, Norwegian Academy of Music, Oslo: NMH-publikasjoner
- Hilton, M. (2010). *Exploring the intersection of science education and 21<sup>st</sup> century skills: A workshop summary*. Washington, DC: National Academies Press.
- Horn, R.A. (2002). *Understanding educational reform: A reference handbook*. Denver, CO: ABC-CLIO.
- Hurley S. (2004). Imitation, Media Violence, and Freedom of Speech. *Philosophical Studies* 117 (1-2):165-218.
- Illeris, K. (Ed.). (2009). *Contemporary theories of learning; learning theorists...in their own words*. New York, NY: Routledge.
- Greening, T. (1998). Scaffolding for success in problem-based learning. *Medical Education Online*, 3(4), Article 00012. Retrieved October 2, 2013, from <http://www.med-ed-online.org/f0000012.htm>
- Jacobs, J.E & O'Gorman, K.L (2012), *The Learning Leader: Reflecting, Modeling, and Sharing*, New York, NY: Routledge.
- Johnson, L. F. Smith, R. S. Smythe, J. T. Varon, R. K. (2009). *Challenge-Based Learning: An Approach for Our Time*. Austin, Texas: The New Media Consortium.
- King, Terry (2010), *Gregor Piatigorsky: The Life and Career of the Virtuoso Cellist*, Jefferson, North Carolina: McFarland & Co.
- Lalli, R. (2004). Master plan: how to get the most out of a master class. *Opera news* 69, (1): 24-26.



- Lea S., Stephenson D. & Troy J. (2003) Higher education students' attitudes to student-centred learning: Beyond 'educational bulimia'? *Studies in higher education*, 28(3): 321-334.
- Long, M. Hallam, S. Creech, A., Gaunt, H., & Robertson, L. (2011). Do prior experience, gender, or level of study influence music students' perspectives on master classes? *Psychology of Music*, early publication online: [www.pom.sagepub.com/content](http://www.pom.sagepub.com/content).
- Mascolo, M. (2009). Beyond student-centered and teacher-centered pedagogy: Teaching and learning as guided participation. *Pedagogy and the Human Sciences*, 1: 3-27.
- Mayer, R. (2004). Should there be a three-strikes rule against pure discovery learning: The case for guided methods of instruction. *American Psychologist*, 59(1), 14-19.
- National Commission on Excellence in Education. (1983). *A Nation at Risk: The Imperative for Educational Reform*. Retrieved (11/03/2013) from <http://www.ed.gov/pubs/NatAtRisk/index.html>
- O'Neill, G., & McMahon, T. (2005). Student-centred learning: What does it mean for students and lecturers? In G. O'Neill, S. Moore, & B. McMullkin (Eds.), *Emerging issues in the practice of university learning and teaching*. Retrieved July 17, 2013, from <http://www.aisheorg/readings/2005-1>
- Prince, M. (2004). Does active learning work? A review of the research. *Journal of Engineering Education*, 93(3): 223-231.
- Schon, D. (1987) . *Educating the reflective practitioner*. San Francisco: Jossey-Bass.
- Strauss, S. & Shilony, T. (1997). Models possessed by teachers for children's intelligence and learning. *Khinuch v'Khashiva* (Education and Thinking), 11: 53-64.(Hebrew)
- The New Commission on the Skills of the American Workforce (December 14, 2006). *Tough choices or tough times: The report of the new commission on the skills of the*



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**American workforce.** NCEE (National Center on Education and the Economy). Executive Summary. Retrieved (10\11\2013) from <http://www.ncee.org/publications/archived-publications/new-commission-on-the-skills-of-the-american-workforce-publications/>

Thomas, N. P., Crow, S. R., & Franklin, L. (2011). ***Information literacy and information skills instruction: applying research to practice in the 21<sup>st</sup> century school library***. Santa Barbara, California: Libraries Unlimited.

Trilling, B. & Fadel, C. (2009). ***21st Century Skills: Learning for Life in our Times***. San Francisco, CA: Jossey-Bass.

Wan G. & Gut M. D. (Eds.). (2011). ***Bringing Schools into the 21st Century***. New York: Springer.

Wagner, Tony. (2008). ***The global achievement gap: Why even our best schools don't teach the new survival skills our children need-and what we can do about it***. New York: Basic Books.

Walker, A. (2012) Franz Liszt: A bicentennial tribute, ***Hungarian Studies Review***, 1-2:35-44

Wallis C., & Steptoe, S. (December 10, 2006). How to bring our schools out of the 20<sup>th</sup> century. ***Time magazine***. Retrieved (10\11\2013) from <http://content.time.com/time/magazine/article/0,9171,1568480,00.html>