

- [1] *Science and Engineering Education Needs to Be Prioritized Through Fifth Grade, Says New Report* <https://www.nationalacademies.org/news/2021/10/science-and-engineering-education-needs-to-be-prioritized-through-fifth-grade-says-new-report> 2021. Accessed September 2023.
- [2] Christensen, R., Kenzek, G., Tyler-Wood, T.; *Student perceptions of Science, Technology, Engineering and Mathematics (STEM) content and careers. Computers in Human Behavior*, 34 (173-186). (2014)
- [3] Doménech-Betoret, F., Abellán-Roselló L., Gómez-Artiga A. *Self-Efficacy, Satisfaction, and Academic Achievement: The Mediator Role of Students' Expectancy-Value Beliefs. Frontiers in Psychology*, 8 (1193). (2017)
- [4] Lee, J-S. *The Relationship Between Student Engagement and Academic Performance: Is It a Myth or Reality? The Journal of Educational Research*, 107(3), 177–185. (2014)
- [5] Lei, H. *Relationship between student engagement and academic achievement: A meta-analysis. Social Behavior and Personality* 46(3), 517-528. (2018)
- [6] Gates Jr., S. J.; Mirkin, C.; *Encouraging STEM Students Is in the National Interest. The Chronicle of Higher Education*, <http://chronicle.com/article/Encouraging-STEM-Students-Is/132425/>. (2012)
- [7] *What is STEM Education?* <http://www.livescience.com/43296-what-is-stem-education.html>. 2014. Accessed: November 27, 2015.
- [8] McLaughlin, C.; *STEM: It's Elementary, Too!. International Technology Education Association* 14(1), pp. 2 & 18. September 2009.
- [9] The STEM Crisis: STEM Education Statistics. <https://nms.org/AboutNMSI/TheSTEMCrisis/STEMEducationStatistics.aspx>. Accessed: December 1, 2015.
- [10] *STEM Education--It's Elementary* <http://www.usnews.com/news/articles/2011/08/29/stem-education--its-elementary> (2011). Accessed Jan 27, 2016
- [11] Hattie, J. *Visible Learning*. London: Routledge. (2009)

- [12] Darling-Hammond, L.; Chung Wei, R.; Andree, A.; Richardson, N.; Orphanos, S.; *Professional Learning in the Learning Profession: A Status Report on Teacher Development in the United States and Abroad*, National Staff Development Council. (2009)
- [13] National Research Council *Preparing Teachers: Building Evidence for Sound Policy*. Washington, DC: National Academy Press. (2010)
- [14] Timperley, H.; Wilson, A.; Barrar, H.; and I. Fung, I. *Teacher Professional Learning and Development. Best Evidence Synthesis Iteration [BES]*. Wellington, New Zealand: Ministry of Education. (2007) <http://www.educationcounts.govt.nz/publications/series/2515/15341> (accessed March 12, 2016)
- [15] Van Driel, J. H., D. Beijaard, and N. Verloop. *Professional development and reform in science education: The role of teachers' practical knowledge. Journal of Research in Science Teaching*, 38(2):137–158. (2001)
- [16] Yoon, K. S., T. Duncan, S. W.-Y. Lee, B. Scarloss, and K. Shapley. Reviewing the evidence on how teacher professional development affects student achievement. Issues & Answers Report, REL 2007, No. 033. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest. (2007) <http://ies.ed.gov/ncee/edlabs> (accessed March 12, 2016).
- [17] Hewson, P. *Teacher Professional Development in Science. In Handbook of Research on Science Education*, ed. S. Abell, and N. Lederman, pp. 1177–1202. Mahwah, New Jersey: Lawrence Erlbaum Associates. (2007)
- [18] Garet, M., A. Porter, L. Desimone, B. Birman, and K. Yoon. *What makes professional development effective? Analysis of a national sample of teachers. American Education Research Journal* 38 (4): 915–945. (2001)