

Shoresh Research Paper

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Who Is Teaching Israel's Children?

Teacher Skills in International and Domestic Perspectives

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Abstract

The skill level of teachers in Israel across all subjects is lower than that of teachers in most OECD countries that participated in the international survey of adult skills (PIAAC) conducted in 2022-2023. Whereas in OECD countries there is almost no difference between the skills of teachers and those of other employed persons, teachers with academic degrees in Israel exhibit lower skill levels than non-teacher employed persons with academic degrees. The study identifies two additional phenomena unique to teachers with academic degrees in Israel: First, while skill levels rise with education among teachers and non-teachers in OECD countries, and among non-teachers in Israel, almost no such relationship is found among Israeli teachers. Second, persons with higher education degrees in STEM fields tend to exhibit the highest skill levels among teachers and non-teachers in OECD countries, and among non-teachers in Israel. However, teachers in Israel with degrees in STEM fields have even lower skill levels than teachers with other academic degrees. Teachers in the Arab education stream and early childhood teachers exhibit the lowest skill levels in Israel.

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Introduction

Teachers play a central role in shaping student achievement (Sand and Levy, 2025; Hanushek et al., 2019; Meroni et al., 2015; Chetty et al., 2014; Rivkin et al., 2005; Rockoff, 2004). The contribution of teacher quality to achievement is more significant than that of other educational inputs, such as reducing class sizes (Buckingham, 2003), and it even exceeds the effect of traditional teacher characteristics such as formal training or seniority (Hanushek, 2010).¹

When teacher pay rose relative to pay in other occupations, the quality of teaching applicants improved (Leigh, 2012; Biasi, 2021). Findings from Israel also show that financial incentives for teachers improve student achievement (Lavy, 2007; 2009), and even increase the probability that students will obtain an academic education and earn higher wages in the future (Lavy, 2020). Alongside financial incentives, on-the-job training for teachers in Israel has been shown to be a cost-effective means of raising achievement, more so than reducing class sizes or adding instructional hours (Angrist and Lavy, 2001).

Examining teachers' skills provides a comparative picture of the quality of teachers' human capital in Israel and the extent to which it is suited to the challenges posed by the modern economy. Improving teachers' skills is not merely a professional objective of the Ministry of Education; it is also a necessary condition for strengthening human capital and ensuring the competitiveness of an economy based on knowledge-intensive industry and on a high-tech sector that serves as a leading engine of growth. Accordingly, this study uses data from the 2022-2023 PIAAC survey to provide an in depth examination of teachers' skills in Israel in comparison with non-teachers, as well as with their counterparts in other developed countries.

¹ The contribution of teacher quality to achievement is measured by examining differences in the rate of growth of student achievement, such that a good (weak) teacher is defined as one who consistently produces high (low) educational progress.

The PIAAC survey

The PIAAC survey (Program for the International Assessment of Adult Competencies) is conducted by the OECD to assess the basic skills of the adult population (ages 16-65). The survey examines adults' ability to process information and cope with everyday and work-related tasks in three main cognitive domains: literacy, numeracy, and adaptive problem solving. Scores in each domain range from 0 to 500 points. In addition to the assessment itself, the survey collects extensive demographic and employment information, thereby providing a comparative picture of the quality of human capital in different countries and of how well the workforce is suited to the challenges of the modern economy.

Findings from the first cycle of the PIAAC survey (conducted in Israel in 2014-2015) showed that although Israel led in years of schooling, low skill levels explained most of the labor-productivity gap between Israel and other OECD countries (Bank of Israel, 2019; Hazan & Tsur, 2021). Brand (2019) found that although the skill level of Israel's highest performers is below that of the highest performers in many developed countries, those with high skill levels in Israel appear to make better use of their abilities in the labor market. Mazar (2018) showed that the return to skills in the private sector is significantly higher than in the public sector. Because public-sector pay is generally determined by seniority and formal education, and has difficulty rewarding workers on the basis of their actual skills, the public sector is at a disadvantage in competing for high-quality human capital. Consistent with this, teachers in Israel, who constitute a substantial and important part of the public sector, were found to have relatively low skill levels, both in relation to the skill distribution of the overall population and in international comparison (Hanushek et al., 2019).

The second cycle of the PIAAC survey has so far been conducted in 31 countries (in 2022-2023), and is a continuation of the first cycle (2011-2018), which encompassed 39 countries and was carried out over three rounds of data collection.²

² Very similar results to those presented in this study were also obtained using data from the first cycle of PIAAC.

Defining the teacher population

The definition of the teacher population in the survey was based on cross-referencing the “education” industry³ with “Teaching Professionals.” Because this identification is likely to include individuals engaged in teaching who are not schoolteachers, such as lecturers,⁴ the analysis focuses on the median cognitive skill level of teachers at the country level, since the median is less affected by extreme values than the mean. Thirty-one countries participated in the second cycle of PIAAC,⁵ but occupational data (ISCO2C) and industry data (ISIC2C) were obtained for only 19 of them.⁶

The study compares teachers in Israel with teachers in the other 18 countries in the sample – the “comparison countries”⁷ – and also compares teachers with other employed persons whose occupation or industry of employment is known. Because all of the “comparison countries” are members of the OECD except Singapore, which is defined as a “partner country” and regularly participates in the organization’s international surveys, they are referred to in this study, for brevity, as OECD countries.

³ A comparison of the two-digit classification of the education industry (ISIC2C=85) with the one-digit classification (ISIC1C=P) found complete overlap between the variables (that is, every observation classified as “education” under the two-digit variable is classified the same way under the one-digit variable, and vice versa). This study is based on the one-digit classification (P) of economic industries, because this variable is available for a larger number of countries (24 compared with 18), thereby making it possible to expand the number of comparison countries.

⁴ For the purpose of validating the teacher identification procedure, the study’s results were also examined using a subsample of nine countries (Belgium, Chile, the Czech Republic, France, Poland, Slovakia, Spain, Switzerland, and Israel) for which more detailed occupational data are available (the ISCO08_C variable). These data enable more precise identification of the population of teachers in secondary, primary, and early childhood education (including vocational and special education teachers), while excluding lecturers and teachers in post-secondary education. The analysis using this more precisely defined subsample (ISCO08_C) yields similar results and also supports the conclusion that the cognitive skills of teachers in Israel are significantly lower than those of their counterparts in OECD countries.

⁵ An additional round is planned between 2024 and 2029, in which additional countries may participate.

⁶ Data for 16 countries are published in PUF files on the OECD website (Belgium, Chile, Czechia, France, Hungary, Israel, Italy, Japan, South Korea, Latvia, Poland, Portugal, Singapore, Slovakia, Spain, and the United States). Three additional countries sent the data for this study after being contacted (Austria, Ireland, and Switzerland).

⁷ Unless stated otherwise, the comparison is between the median scores in Israel and the simple average of the medians in the comparison countries.

Achievement gaps, education levels, and fields of study

The cognitive skills of teachers in Israel – whether measured by literacy, numeracy, or problem solving – are substantially lower than those of teachers in OECD countries.⁸ Part of the gap may stem from the lower level of formal education among teachers in Israel: 37% of teachers in Israel hold a master's degree, compared with 49% on average in the OECD countries (Table 1). When teachers with the same level of education are compared (Figure 1), the gaps between the skills of teachers in Israel and those in OECD countries are found mainly among teachers with an academic education (an undergraduate degree or higher).

Achievement gaps between education levels are narrower among teachers than among non-teachers, both in OECD countries and, more markedly, in Israel (Figure 1). Teachers with lower levels of education display higher cognitive skills than other employed persons with the same level of education, whereas among those with an academic education the opposite is true – teachers' skills are lower than those of non-teachers with academic degrees.

Table 1

Distribution of employed persons by education level

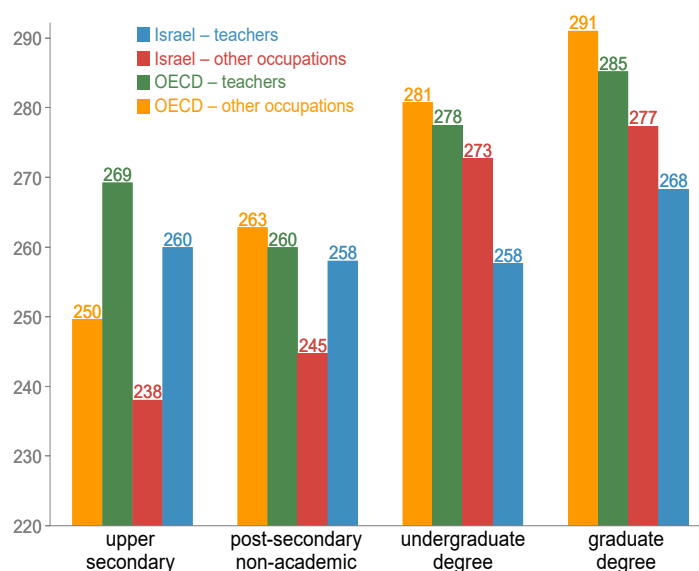
Education level	Teachers		Other occupations	
	Israel	OECD	Israel	OECD
Upper secondary	11%	10%	48%	49%
Post-secondary non-academic	11%	7%	13%	14%
Undergraduate degree	41%	35%	24%	19%
Graduate degree	37%	49%	15%	18%

Source: Yael Melzer, Shoresh Institution for Socioeconomic Research
Data: OECD, Survey of Adult Skills (PIAAC), Cycle 2 (2022-2023)

Figure 1

Scores of teachers and other employed persons by their education level

average of median scores in the three test subjects*



* The average of the median scores is the simple average of the PIAAC median scores in literacy, numeracy, and problem solving.

Source: Yael Melzer, Shoresh Institution for Socioeconomic Research
Data: OECD, Survey of Adult Skills (PIAAC), Cycle 2 (2022-2023)

⁸ As in other studies based on PIAAC data (for example, Andrews et al., 2025), and in light of the high correlation among scores in the different assessment domains, the study will at times present simple averages of the three domains: literacy, numeracy, and problem solving.

These findings indicate that the education system succeeds in recruiting a relatively skilled workforce from among those without an academic education, but has difficulty recruiting and retaining highly skilled individuals with academic degrees. This phenomenon is consistent with the more egalitarian pay structure in the public sector (Gregory and Borland, 1999; Bender, 1998), where most teachers are employed. Public-sector pay is generally influenced by formal education and seniority, in contrast with the private sector, which provides a higher return to skill levels. Skilled workers therefore tend to prefer the private sector, while less-skilled workers tend to enter the public sector (Borjas, 2002).

Because the share of teachers with an academic education is higher than among non-teachers (Table 1), the analyses that follow are limited to individuals with an academic education, both in the teacher group and in the employed non-teacher group.

Beyond examining achievement by level of formal education, PIAAC data also make it possible to examine teachers' skills by field of academic study. In Israel, 64% of teachers with an academic education were trained in education, compared with 54% of

Table 2
Distribution of employed academics by field of study

Field of study	Teachers		Other occupations	
	Israel	OECD	Israel	OECD
Education	64%	54%	6%	5%
Humanities	11%	16%	6%	8%
Social Sciences	14%	10%	35%	30%
STEM	9%	11%	24%	25%
Other	3%	10%	28%	31%

Source: Yael Melzer, Shoresh Institution for Socioeconomic Research
Data: OECD, Survey of Adult Skills (PIAAC), Cycle 2 (2022-2023)

teachers in OECD countries (Table 2). About one-quarter of academic teachers, both in Israel and in OECD countries, were trained in the humanities and social sciences, and only about one-tenth in science and technology fields.

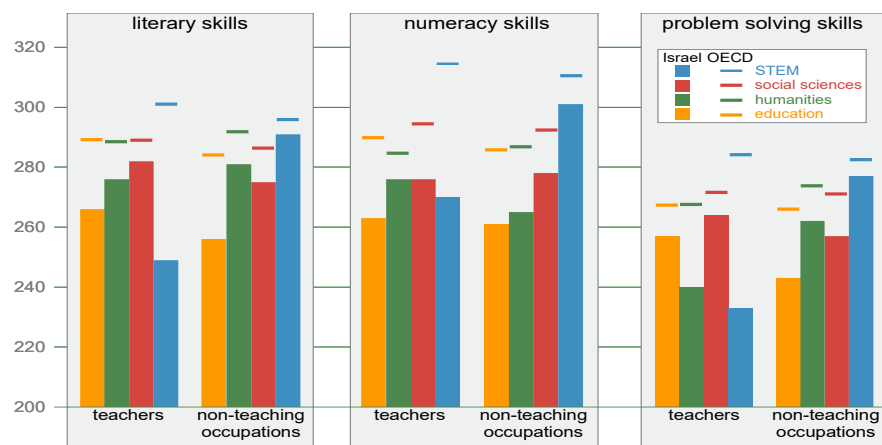
Contrary to the pattern found in OECD countries and among non-teachers, where those with the highest skills come from STEM fields (science, technology, engineering, and mathematics), in Israel the teachers with an academic education who have the highest skills are those trained in the social sciences (Figure 2). Academic teachers in Israel who were trained in

STEM fields display the lowest skill levels in literacy and problem solving, while in numeracy they are similar to other teachers with an academic education.

Israeli teachers perform below OECD teachers across all fields of study (represented by the horizontal lines in Figure 2). Compared with non-teachers with academic degrees, this gap is particularly pronounced in STEM

fields. However, among those educated in the field of education, teachers (especially in Israel) have higher skill levels than their counterparts who enter other occupations, particularly in literacy and problem solving.

Figure 2
Scores by field of academic study
Comparison between teachers and other employed persons

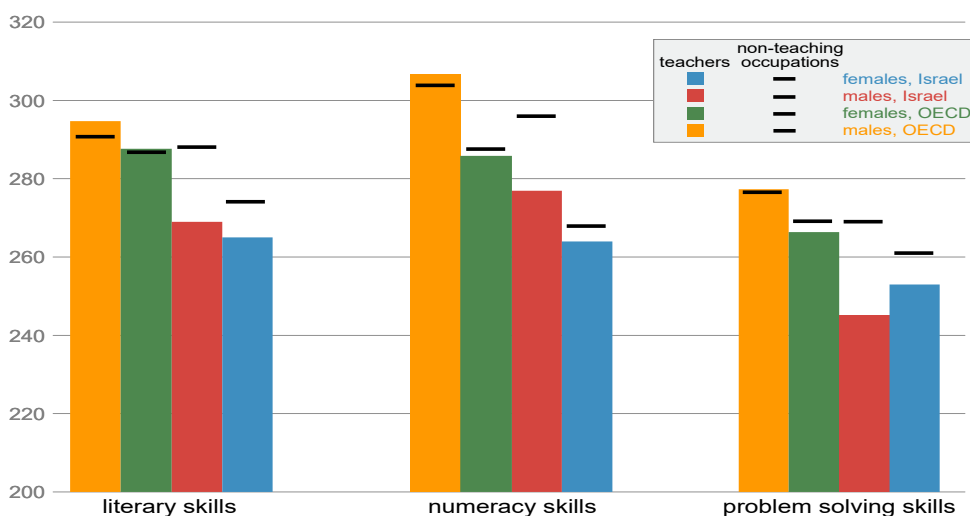


Source: Yael Melzer, Shoresh Institution for Socioeconomic Research
Data: OECD, Survey of Adult Skills (PIAAC), Cycle 2 (2022-2023)

Gender and demographic analysis

Male teachers in the OECD score higher than female teachers, particularly in numeracy (Figure 3). In Israel, the gender gap between male and female teachers is smaller, and in problem solving female teachers even outperform male

Figure 3
Scores of employed persons with academic degrees by gender
Comparison between teachers and other employed persons



Source: Yael Melzer, Shoresh Institution for Socioeconomic Research
Data: OECD, Survey of Adult Skills (PIAAC), Cycle 2 (2022-2023)

teachers. The gap between men and women is larger among non-teachers in Israel. In OECD countries, the male advantage among teachers is similar to that in the employed non-teacher group.

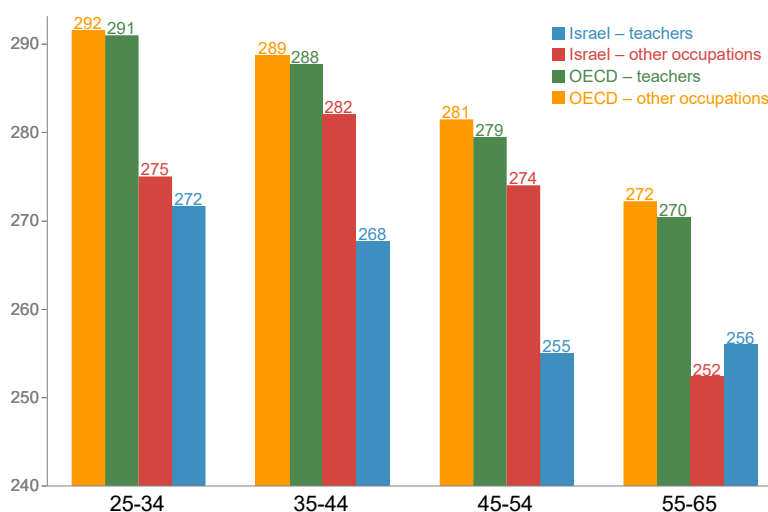
In OECD countries, there is almost no difference between teachers' average achievement and that of non-teachers, among both women and men. In Israel, by contrast, there is a clear achievement gap in favor of non-teachers, and this gap is especially large among men.

The skills of teachers with an academic education in Israel are lower than those of teachers with an academic education in OECD countries in every age group (Figure 4). Compared with non-teachers with academic degrees, teachers with an academic education in Israel have lower skills mainly at middle ages. In OECD countries, there is almost no difference between the skills of teachers with an academic education and those of non-teachers with academic degrees in any age group.

In every population group examined – teachers and non-teachers, in Israel and internationally – older adults have lower achievements than younger adults. The literature explains this phenomenon by a combination of three main factors: age-related decline in cognitive skills such as information-processing speed, memory, and the ability to multitask (Cordeiro et al., 2024); the use effect (“Use it or lose it”), reflecting a decline over the years in the frequency with which these skills are used in daily life and at work (Hanushek et al., 2024); and a cohort effect resulting

Figure 4
Scores of employed persons with
academic degrees by age group

average of median scores in the three test subjects*



* The average of the median scores is the simple average of the median scores in literacy, numeracy, and problem solving.

Source: Yael Melzer, Shoresh Institution for Socioeconomic Research

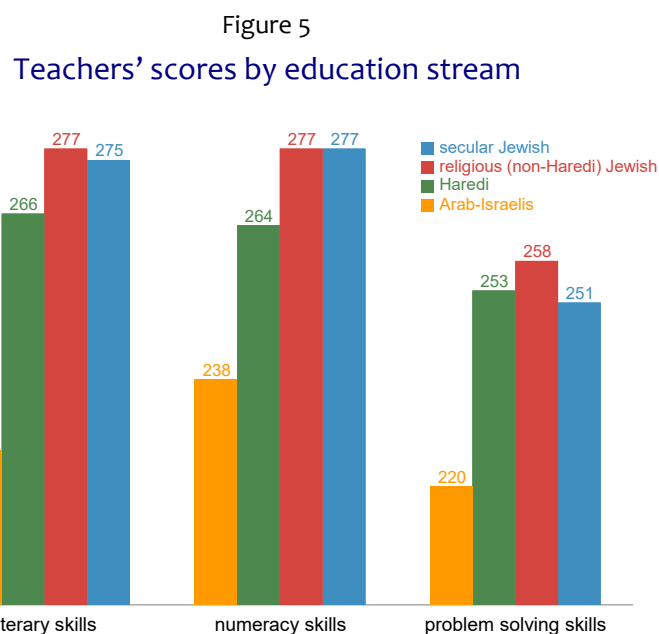
Data: OECD, Survey of Adult Skills (PIAAC), Cycle 2 (2022-2023)

from the fact that younger generations benefited from more advanced education systems and technologies than the generations that preceded them (Desjardins and Warnke, 2012).

Teachers' skills in Israel by education stream, school level and type of institution attended

In Israel, there are substantial disparities in teachers' skills across the different education streams (Figure 5). In the Haredi stream, teachers' scores in literacy and numeracy are lower than those of teachers in the secular and religious (non-Haredi) systems, while Arab-Israeli teachers' scores are markedly lower than those in all other streams. Lower investment and shortages of infrastructure and resources in Arab education contribute to perpetuating inequalities in opportunities and achievement (Haddad Haj-Yahya et al., 2021), thereby directly affecting the skills of teachers in the Arab education stream, in which they themselves were likely educated. In addition, the diglossia⁹ that characterizes the Arabic language (Abu-Liel et al., 2021) may also contribute to differences in performance, as the effect of language cannot be completely disentangled from the cognitive skill being measured (OECD, 2018).

The achievements of upper secondary school teachers are substantially higher than those of teachers at lower stages of education in all three domains (Figure 6). Lower secondary school teachers' achievement in mathematics is higher than



Source: Yael Melzer, Shoresh Institution for Socioeconomic Research
Data: OECD, Survey of Adult Skills (PIAAC), Cycle 2 (2022-2023)

⁹ The gap between spoken Arabic, used in everyday communication, and Standard Arabic, used in reading, writing and formal contexts such as the PIAAC survey.

that of primary and pre-primary teachers; and the skills of primary-school teachers are higher than those of pre-primary teachers in literacy and problem solving.

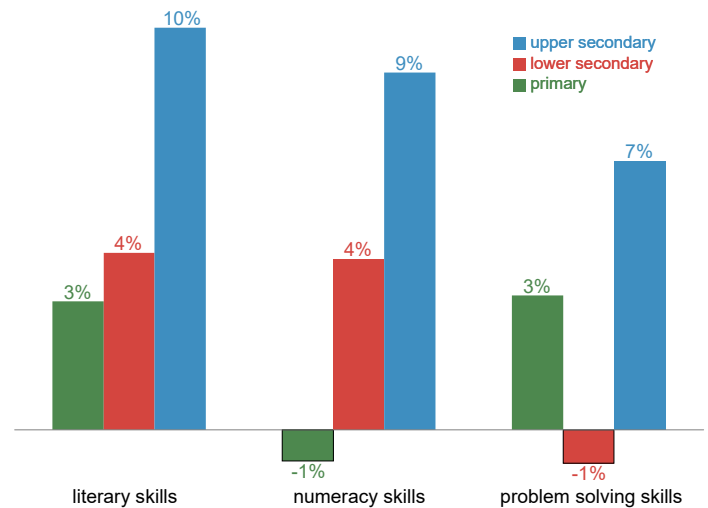
The type of institution in which teachers studied also affects their achievement: the median score of teachers who graduated from universities is higher than that of college graduates (Figure 7). Among Jews, non-teachers who studied at universities or colleges have higher skills than teachers who studied at the same type of institution. Among kollel graduates,¹⁰ the pattern is reversed: the median score of teachers is actually higher than that of kollel graduates who are not teachers.

Summary and conclusions

This study examined the skills of Israeli teachers in comparison with non-teachers in Israel, as well as with teachers and non-teachers in other countries, using data from the 2022-2023 PIAAC survey. The findings paint a complex and problematic picture of the quality of human capital in Israel's education system.

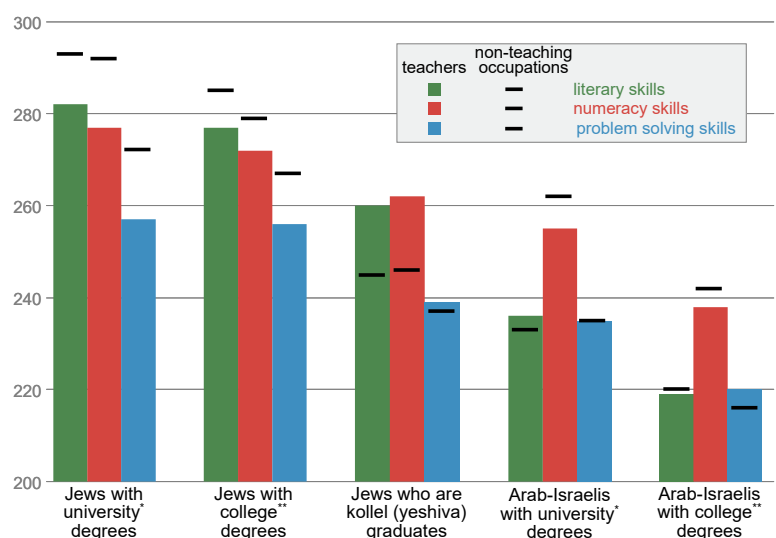
¹⁰ A kollel is a yeshiva-based educational institution for married Haredi students who continue their studies after marriage.

Figure 6
Teachers' scores by teaching level
relative to scores of preschool teachers



Source: Yael Melzer, Shoresh Institution for Socioeconomic Research
Data: OECD, Survey of Adult Skills (PIAAC), Cycle 2 (2022-2023)

Figure 7
Scores of teachers and other employed persons by
religious and educational background



* research universities
** non-research colleges

Source: Yael Melzer, Shoresh Institution for Socioeconomic Research
Data: OECD, Survey of Adult Skills (PIAAC), Cycle 2 (2022-2023)

From an international perspective, the skill level of teachers in Israel is lower than in OECD countries in all skill domains (literacy, numeracy and problem solving) and in every age group.

Arab-Israeli teachers, teachers with low levels of formal education, and teachers working with young children displayed particularly low skill levels. Teachers working at more advanced stages of education, and teachers who graduated from universities, achieved higher scores.

One of the main conclusions emerging from this analysis concerns the selection process into the teaching profession in Israel. Among individuals with an academic education – the main target group for teacher recruitment today – the skills of teachers are lower than those of non-teachers. One possible reason is that teaching (particularly in secondary schools) requires an academic degree as a formal threshold condition and rewards advanced degrees – a requirement that also induces lower-skilled candidates to obtain a degree, unlike the private market, where selection relies more on actual skills and less on formal credentials. These findings indicate a genuine difficulty for the education system – in its current method of operation – in competing for high-quality human capital against alternatives in the labor market, where the rewards for high skills are clearer and more worthwhile. In Israel, the large gap between male teachers and male non-teachers suggests that alternatives in the free market attract highly skilled men, leaving the education system with relatively weaker human capital.

In light of the findings, and given the importance of teachers' skills for student achievement, there is an urgent need for systemic measures to improve the quality of teaching. Key policy recommendation derived from this study are to raise the admission requirements for teaching through a substantial change in the teacher training model: Instead of studying education, potential teaching candidates should be required to earn an academic degree in the discipline they wish to teach, followed by a short period for attaining a teaching certificate. Furthermore, compensation models that strengthen the link between skills and pay should be considered in order to make the profession attractive to highly skilled individuals with academic degrees as well. Targeted attention is also required to address gaps between school streams, stages of education,

and types of institutions, with priority given to reducing the skill gaps between teachers in the Arab school system and early-childhood teachers, who were found to have the lowest skill levels, and other teachers.

Improving teachers' skills in Israel is not only a systemic objective of the Ministry of Education, but a necessary condition for strengthening human capital and ensuring the competitiveness of the Israeli economy, which is based on knowledge-intensive industry and on a high-tech sector that serves as a leading engine of growth. A combination of updated admission requirements for teaching, reform of the compensation structure, improved quality of initial and continuing training, and targeted treatment of gaps between population groups and sectors may, over time, raise teachers' skill levels to those characteristic of OECD countries.

References

- Abu-Liel, Aula Khatteb, Raphiq Ibrahim and Zohar Eviatar (2021), "Reading in multiple Arabics: Effects of diglossia and orthography", *Reading and Writing*, 34(9), 2291–2316.
https://cris.haifa.ac.il/en/publications/reading-in-multiple-arabics-effects-of-diglossia-and-orthography/?utm_source=chatgpt.com
- Andrews, Dan, Balázs Égert and Christine de La Maissonneuve (2025), "Adult Skills and Productivity: New Evidence from PIAAC 2023", International Productivity Monitor, Centre for the Study of Living Standards, vol. 49, pages 41-63, Fall. <https://ideas.repec.org/a/sls/ipmsls/v49y20252.html>
- Angrist, Joshua and Victor Lavy (2001), "Does Teacher Training Affect Pupil Learning? Evidence from Matched Comparisons in Jerusalem Public Schools", *Journal of Labor Economics*. 19, 343-69.
https://www.researchgate.net/publication/24099804_Does_Teacher_Training_Affect_Pupil_Learning_Evidence_from_Matched_Comparisons_in_Jerusalem_Public_Schools
- Bank of Israel (2019), "Productivity and Cognitive Skills of Israeli Workers: An International Comparison," Bank of Israel Annual Report 2018.
<https://www.boi.org.il/publications/regularpublications/boi-reports/%D7%93%D7%95%D7%97-%D7%91%D7%A0%D7%A7-%D7%99%D7%A9%D7%A8%D7%90%D7%9C-2018/>
- Bender, Keith (2003), "Examining Equality between Public-and Private-Sector Wage Distribution", *Economic Inquiry* 41, 62-79.
https://econpapers.repec.org/article/oupecinqu/v_3a41_3ay_3a2003_3ai_3a1_3ap_3a62-79.htm
- Biasi, Barbara (2021), "The Labor Market for Teachers under Different Pay Schemes", *American Economic Journal: Economic Policy*, 13(3), 63-102.
<https://www.aeaweb.org/articles?id=10.1257/pol.20200295>
- Borjas, George (2003), "Wage Structures and the Sorting of Workers into the Public Sector", *For the People: Can We Fix Public Service?* Ed. John D. Donohue and Joseph S. Nye, Jr., Brookings Institution, 2003, 29-54. <https://www.hks.harvard.edu/publications/wage-structures-and-sorting-workers-public-sector>

- Brand, Gilad (2019), "Returns to Skills in the Israeli Labor Market," Taub Center for Social Policy Studies in Israel. <https://www.taubcenter.org.il/en/research/returns-to-skills-in-the-israeli-labor-market/>
- Buckingham, Jennifer (2003), "Class Size and Teacher Quality" *Educational Research for Policy and Practice*, 2, 71-86. <https://doi.org/10.1023/a:1024403823803>.
- Chetty, Raj, John N. Friedman and Jonah E. Rockoff (2014), "Measuring the Impacts of Teachers II: Teacher Value-Added and Student Outcomes in Adulthood." *American Economic Review* 104(9), 2633–2679. <https://www.aeaweb.org/articles?id=10.1257/aer.104.9.2633>
- Cordeiro, Ana, Catarina Gomes, Joana Bicker and Ana Fortuna (2024), "Aging and cognitive resilience: Molecular mechanisms as new potential therapeutic targets", *Drug Discovery Today*. <https://pubmed.ncbi.nlm.nih.gov/38992420/>
- Desjardins, Richard and Maciej Warnke (2012), "Ageing and Skills: A Review and Analysis of Forecasting Possibilities", OECD Education Working Papers, No. 72. https://www.oecd.org/content/dam/oecd/en/publications/reports/2012/03/ageing-and-skills_g17a2106/5k9csvw87ckh-en.pdf
- Gregory, Robert G. and Jeff Borland (1999), "Recent Development in Public Sector Labor Markets". *Handbook of Labor Economics* 3(C), 3573-3630. <https://econpapers.repec.org/bookchap/eeelabchp/3-53.htm>
- Haddad Haj-Yahya, Nasreen, Aiman Saif, Nitsa (Kaliner) Kasir and Ben Fargeon (2021), "Master Plan for Promoting Employment in the Arab Society: Education in Arab Society – Disparities and Signs of Change," Israel Democracy Institute. <https://www.idi.org.il/media/15620/education-in-arab-society-disparities-and-signs-of-change.pdf>
- Hanushek, Eric (2010), "Education Production Functions: Developed Country Evidence", *International Encyclopedia of Education*, Pages 407-411. <https://www.sciencedirect.com/science/article/pii/B9780080448947012318?via%3Dihub>
- Hanushek, Eric, Lavinia Kinne, Frauke Witthoeft and Ludger Woessmann (2024), "Age and Cognitive Skills: Use It or Lose It", Ann Arbor, MI: Inter-university Consortium for Political and Social Research (ICPSR). https://www.researchgate.net/publication/384563640_Age_and_Cognitive_Skills_Use_It_or_Lose_It
- Hanushek, E., Marc Piopiunik and Simon Wiederhold (2019), "The Value of Smarter Teachers: International Evidence on Teacher Cognitive Skills and Student Performance", *Journal of Human Resources*, 54(4), 857-899. https://www.researchgate.net/publication/336827645_The_Value_of_Smarter_Teachers_International_Evidence_on_Teacher_Cognitive_Skills_and_Student_Performance
- Hazan, Moshe and Shay Tsur (2021), "Why is Labor Productivity in Israel so Low?," *The Israeli Economy, 1995-2017: Light and Shadow in a Market Economy*, Cambridge University Press, 329-361. chrome-extension://efaidnbmnnnibpcajpcgclefindmkaj/https://assets.cambridge.org/97811088/30461/frontmatter/9781108830461_frontmatter.pdf
- Lavy, Victor (2007), "Using Performance-Based Pay to Improve the Quality of Teachers", *The Future of children*, Center for the Future of Children, the David and Lucile Packard Foundation. 17. 87-109. https://www.researchgate.net/publication/6413854_Using_Performance-Based_Pay_to_Improve_the_Quality_of_Teachers
- Lavy, Victor (2009), "Performance Pay and Teachers' Effort, Productivity, and Grading Ethics", *American Economic Review* 99(5): 1979–2011. <https://www.aeaweb.org/articles?id=10.1257/aer.99.5.1979>

- Lavy, Victor (2020), “Teachers’ Pay for Performance in the Long-Run: The Dynamic Pattern of Treatment Effects on Students’ Educational and Labour Market Outcomes in Adulthood”, *The Review of Economic Studies*, 87(5), 2322-2355. <https://ideas.repec.org/a/oup/restud/v87y2020i5p2322-2355..html>
- Leigh, Andrew (2012), “Teacher pay and teacher aptitude,” *Economics of Education Review*, 31(3), 41-53. <https://ideas.repec.org/a/eee/ecoedu/v31y2012i3p41-53.html>
- Mazar, Yuval (2018), “Differences in Skill Levels of Educated Workers Between the Public and Private Sectors, the Return to Skills and the Connection Between Them: Evidence from the PIAAC Surveys,” Bank of Israel, Research Department. <https://www.boi.org.il/en/economic-roles/research-and-publications/all-research/discussion-paper-series-research-department/differences-in-skill-levels-of-educated-workers-between-the-public-and-private-sectors-the-return-to-skills-and-the-connection-between-them-evidence-from-the-piaac-surveys/>
- Meroni, Elena, Esperanza Vera-Toscano and Patricia Costa (2015), “Can Low Skill Teachers Make Good Students? Empirical evidence from PIAAC and PISA”, *Journal of Policy Modeling*, 37(2), 308-323. <https://www.sciencedirect.com/science/article/pii/S0161893815000289>
- OECD (2018), “Skills on the Move: Migrants in the Survey of Adult Skills”, OECD Publishing. <https://doi.org/10.1787/9789264307353-en>.
- Rivkin, Steven G., Eric A. Hanushek and John F. Kain (2005), “Teachers, schools, and academic achievement”, *Econometrica*, 73(2), 417–458. <https://doi.org/10.1111/j.1468-0262.2005.00584.x>
- Rockoff, Jonah E. (2004), “The Impact of Individual Teachers on Student Achievement: Evidence from Panel Data”, *American Economic Review*, 94(2) 247–252. <https://www.aeaweb.org/articles?id=10.1257/0002828041302244>
- Sand, Edith and Guy Levy (2025), “The Effect of Teachers’ Cognitive Skills on Students' Educational Achievements,” *Bank of Israel*, Working Papers No. 2025.04. <https://ideas.repec.org/p/boi/wpaper/2025.04.html>
- Soto, Christopher and Oliver John (2016), “The Next Big Five Inventory (BFI-2): Developing and Assessing a Hierarchical Model With 15 Facets to Enhance Bandwidth, Fidelity, and Predictive Power.” *Journal of Personality and Social Psychology*, 113, 117-143. https://www.researchgate.net/publication/295563312_The_Next_Big_Five_Inventory_BFI-2_Developing_and_Assessing_a_Hierarchical_Model_With_15_Facets_to_Enhance_Bandwidth_Fidelity_and_Predictive_Power

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