4 Sept 2023 - ETF-CBS workshop

The changing skills needs in Israel:
recent findings and policy implications

The bigger picture:

Adult basic competencies, monitoring hard and soft skills, and the capacity of education systems

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**The changing skills needs in Israel:
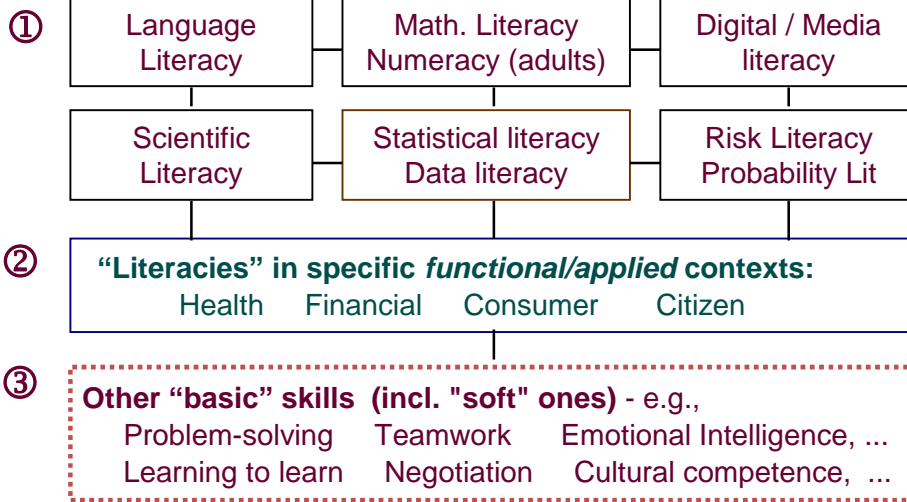recent findings and policy implications**

Today's focus: Vocational education & training

My focus: The bigger picture of adult skills

1. About 'basic skills' (competencies)
   The stepping-stone to *learning,* and upgrading many skills

2. How people (workers) react to a skill gap/mismatch

3. The situation in Israel, education system capacity

4. Summary & conclusions

   Q & A

1. About basic skills (=competencies)
Needed for effective functioning in modern adult life

①
Language Literacy	Math. Literacy Numeracy (adults)	Digital / Media literacy
Scientific Literacy	Statistical literacy Data literacy	Risk Literacy Probability Lit

② **"Literacies" in specific *functional/applied* contexts:**
Health   Financial   Consumer   Citizen

③ **Other "basic" skills (incl. "soft" ones)** - e.g.,
Problem-solving   Teamwork   Emotional Intelligence, ...
Learning to learn   Negotiation   Cultural competence, ...

40% of workers will have to reskill in the next three years due to AI, says IBM study

Written by **Sabrina Ortiz**, Associate Editor on Aug. 18, 2023

What "basic skills" these people need to have, to reskill?

Skill (competency) - a complex construct

The capacity to cope effectively and flexibly with dynamic & challenging real-world demands (DeSeCo / Rychen & Salganic (2013)

A skill (in any domain) involves three *interacting* systems:

> **Cognitive tools:** knowledge + knowhow ('skill')
>
> **Dispositions:** motivation + beliefs + self-efficacy, ...
>
> **Behaviors:** adaptive practices, prior experiences, ...

♦ "Skill": much more than just 'technical' knowledge

♦ The level of skill proficiency (competence) can be shown on a continuum: minimal… basic…...high…very high!

The "soft" side of hard skills: Dispositions

Example - Adult numeracy
cognitive knowledge vs. self-perception

Gal (2022) technical report: "Monitoring adult numeracy for SDG 4.6.1: Options for using indirect and simple measures"

Monitoring adult numeracy for Indicator 4.6.1:
Numeracy Core Group Tentative Recommendations for GAML5

October 2018

UNESCO Institute for Lifelong Learning

"Objective numeracy" Vs. "Subjective numeracy":
Three key findings from surveys + studies

"**How would you rate your current reading skills** in [language]"
   Scale: **Cannot read / poor / fair / good / very good**

> Fagerlin et al. (2007). Measuring numeracy without a math test:
> development of the Subjective Numeracy Scale. *Medical Decision Making.*

1. 'Subjective numeracy' correlates 0.2 to 0.6 with 'Objective numeracy'

2. "Calibration" issues (in both directions)! many people have an 'un-calibrated' self-perception of their skill levels -- too high / too low compared to actual levels (measured in direct assessment)

3. Yet - 'Subjective numeracy' correlates *positively* (adds to explained variance) with outcome variables, *after controlling* for 'objective numeracy'

Implications: What are skills, Training goals, Interpreting surveys

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Beyond skills - to real-world behaviors (in the job-market & beyond)

2. What are the reactions to a skill mismatch / skill gap?

> vertical mismatch   (over/under qualifications)
> horizontal mismatch   (field of study/training)

Topic 1 - worker-level reaction: Change the job

"Job crafting": The actual changes employees make to balance their job demands and resources with their personal abilities and needs..... through altering **tasks and their variety**, relational/social aspects, and **cognitive demands and boundaries of their job** (crafting resources and support, emotional load & work pressure).

Job crafting can be assessed; workers can be <u>trained</u> to craft their jobs

Zhang, F., & Parker, S. K. (2019). Reorienting job crafting research: A hierarchical structure of job crafting concepts and integrative review. *J. of organizational behavior.*

Topic 2 - adult level reaction: Change myself - learn more

Research and 'cumulative wisdom' of practitioners in adult education
& learning (ALE) and vocational development:

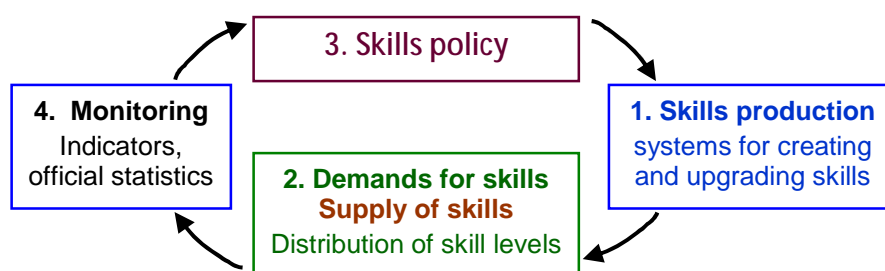**Decision to learn (improve skills) is affected by many factors**:
- Actual skill levels (low-skilled learn less)
- Self-perceptions of skill (e.g., 'subjective X', calibration)
- perceptions of *ease of learning* (how much effort/pain)
and *barriers to participation* (personal + structural)

Decision to persist with learning: Problems with **dropout** levels
A major hidden issue in educational systems

Topic 3 - organization-level reaction: changes and interventions at multiple organizational levels

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3. The situation in Israel, education systems capacity

An idealized sketch of a basic skills system

3. Skills policy

4. Monitoring Indicators, official statistics

1. Skills production systems for creating and upgrading skills

2. Demands for skills Supply of skills Distribution of skill levels

In Israel:
1. Israel does not have a holistic skills policy
2. Skills production is fragmented.   Impoverished adult education system.
3. Skill supply (distribution of basic skills) shows big skill gaps, equality issues
4. Lacking good monitoring in many areas: throughput but not learning quality

Selected examples:
Supply of adult basic skills in Israel
skill gaps and skill equality

Based on the PIAAC national report for Israel
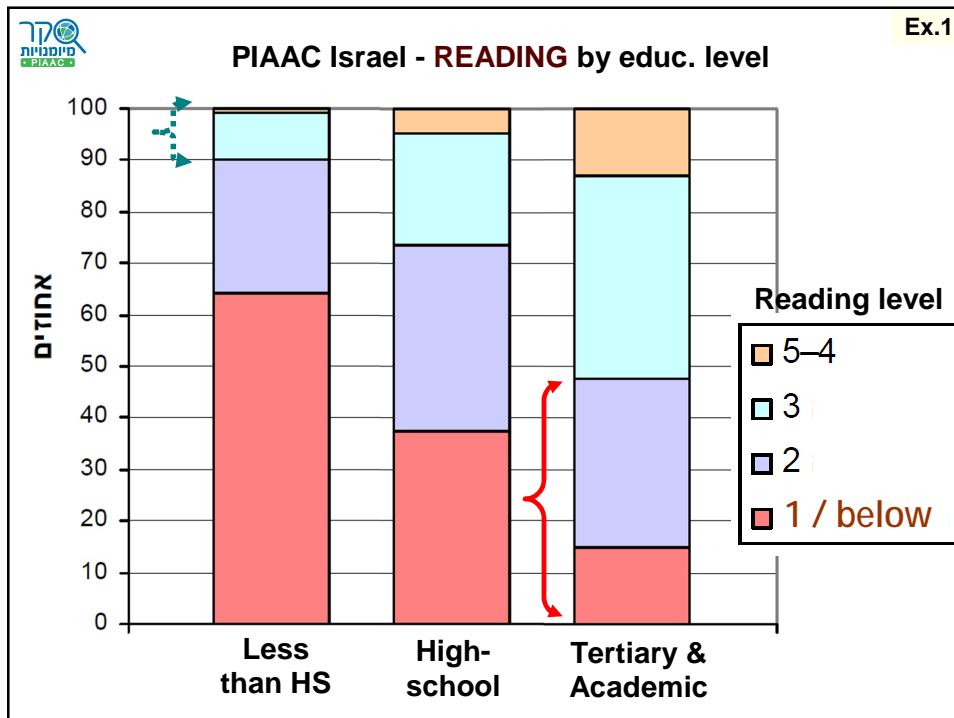Collected 2014-2015, published July 2016

Using a national stratified sample, adults 16-64
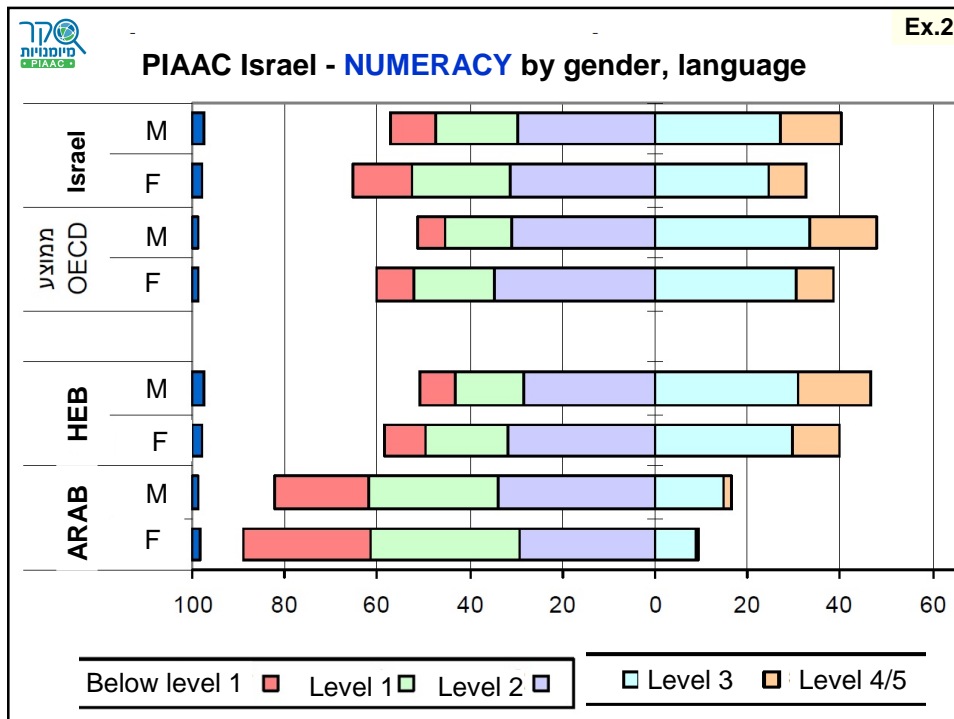In 3 languages: Hebrew, Arabic, Russian

Israel PIAAC website + national reports (Hebrew):
https://www.cbs.gov.il/he/Surveys/Pages/%D7%A1%D7%A7%D7%A8-
%D7%9E%D7%99%D7%95%D7%9E%D7%A0%D7%95%D7%99%D7%95%D7%AA.aspx

OECD country notes - PIAAC results in Israel (English):
https://www.oecd.org/skills/piaac/Skills-Matter-Israel.pdf

Ex.1

PIAAC Israel - READING by educ. level

Reading level

- 5–4
- 3
- 2
- 1 / below

Less than HS | High-school | Tertiary & Academic

PIAAC Israel - NUMERACY by gender, language (Ex.2)

Below level 1 ■ Level 1 □ Level 2 □ Level 3 □ Level 4/5 □

Summary & (selected) conclusions

1. **Skill production:** should consider a wider range of "basic skills" (including "soft skills"+dispositions), given rapidly changing demands

2. **Monitoring:** should address the "lifecycle" of adult learning:
   decision to study ➔ learning process ➔
   learning outcomes (cognitive, dispositions) ✶ dropout

   Surveys need to expand beyond self-perceptions and simple practices, to encompass how people *react to* skill gaps and skill mismatch - differentiate by skill levels (low vs others)

   Each single survey/study is limited by design. What can we do?
   - coordinated large-scale + localized studies.
   - multi-level studies - workers within their organization.

3. **Need a national skills policy + better systemic capacity.** More coordination of formal learning and adult education opportunities

Thank you!   Gracias!   Obrigado!   תודה

Questions? Comments? Better ideas?   Let me know!

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