

# THE GLOBAL RETURN TO PROBLEM SOLVING

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Essential Skills Tracker

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2026 | Grace Stewart, Robert Craig



# Contents

<b>0. Summary</b>	<b>3</b>
Key Findings	3
<b>1. Introduction</b>	<b>4</b>
The New Construct: Adaptive Problem Solving	6
The Policy Imperative: A Portfolio of Skills	7
<b>2. From Construct to Application: The Universal Framework</b>	<b>8</b>
The Universal Framework	9
Practical applications of the APS construct	9
<b>3. Problem solving skills drive higher income</b>	<b>11</b>
Context	12
Findings	13
<b>4. Problem solving skills drive social mobility</b>	<b>16</b>
Context	17
Findings	18
<b>5. Discussion</b>	<b>19</b>
<b>Appendices</b>	<b>21</b>
<b>Appendix A: Methodology</b>	<b>22</b>
<b>Appendix B: Semantic analysis</b>	<b>24</b>

# 0. Summary

In the UK, the Essential Skills Tracker series has found strong links between higher levels of essential skills and positive outcomes for individuals; those with higher levels of essential skills tend to have increased wages, are more likely to use, and be confident with, new technologies such as AI, and have increased life and job satisfaction.

This paper analyses the latest adult skills data (PIAAC Cycle 2) from the OECD. It features a novel construct for measuring problem solving called Adaptive Problem Solving (APS).

Governments, institutions and organisations across the globe are increasingly adopting the Skills Builder Partnership's rigorous approach to essential skills, with partners in more than 50 countries. The publication of the new PIAAC and its inclusion of APS is therefore timely.

Using Large Language Models for semantic analysis, the problem solving constructs of APS are shown to align with skill steps of the Universal Framework. This dataset therefore enables exploration of whether the findings of previous Essential Skills Trackers hold on an international scale.

## Key Findings

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### **Economic Impact:**

- Proficiency in Adaptive Problem Solving is a significant predictor of higher earnings, even when controlling for factors such as age, gender and personality traits.
- The return on higher levels of Adaptive Problem Solving is most prominent in prime-age workers, suggesting increased levels of this skill acts as a catalyst for wage increases.

### **Social Mobility:**

- Similar to previous findings on essential skills, Adaptive Problem Solving acts as a powerful mechanism to boost social mobility, with higher proficiency levels allowing individuals to overcome initial socio-economic disadvantages.

### **Essential Skills:**

- Semantic analysis reveals an 80% match between Adaptive Problem Solving descriptors and *Problem Solving* in the Skills Builder Universal Framework.
- While the OECD measures a particular problem solving construct, the Universal Framework provides the granular, teachable steps required for individuals to build the full set of essential skills, including Problem Solving.

# Introduction



# 1. Introduction

The economic landscape faces two profound challenges: the persistent stagnation of productivity growth, particularly in economically developed economies like the UK<sup>1, 2</sup>, and the rapid, transformative integration of Artificial Intelligence (AI) into the labour market.<sup>3</sup> As routine tasks become increasingly automated, the economic premium is shifting decisively towards human-centric, transferable skills that complement new technologies.<sup>4</sup> This context intensifies the need for a robust evidence base identifying which skills matter most for economic prosperity and individual success.

Previous work in the Essential Skills Tracker series has demonstrated that a portfolio of essential skills, such as those defined in the Skills Builder Universal Framework, carries a meaningful annual wage premium and is strongly correlated with improved social mobility and individual well-being<sup>5, 6</sup>. However, the international evidence base for these skills has faced measurement challenges, often relying on proxies or older constructs.

This paper provides new analysis using the release of the OECD's Programme for the International Assessment of Adult Competencies (PIAAC) Cycle 2 (2023).<sup>7</sup> The OECD is the global organisation sharing policy insights between countries. It is the organisation behind the PISA assessments in education, and PIAAC is the adult complement to that. Similar to PISA, literacy and numeracy assessments sit at PIAAC's core.

This new PIAAC dataset provides, for the first time, a direct, cross-national measure of Adaptive Problem Solving (APS) - a construct fundamentally distinct from so-called "cognitive" skills measured in previous cycles.<sup>8</sup> The research gap is clear: the economic and social return of problem-solving in a large population across multiple economies is unknown.

This analysis quantifies that return, guided by two central hypotheses:

- 1. Hypothesis 1 - Income & Productivity:** Higher levels of Adaptive Problem Solving (APS) skills predict higher levels of income.
- 2. Hypothesis 2 - Social Mobility:** Higher levels of Adaptive Problem Solving (APS) skills predict greater social mobility and more positive non-economic outcomes, such as life satisfaction.

By testing these hypotheses, this paper provides an estimate of the value of APS and by extension problem solving more generally. It links this high-level construct to the granular, teachable steps of the Skills Builder Universal Framework, establishing the policy imperative for its systematic usage.

1. Van Reenen, J. and Yang, X. (2023). *Cracking the productivity code: an international comparison of UK productivity*
2. London: LSE; Harari, D. (2024). *Low growth: The economy's biggest challenge*. London: House of Commons Library
3. Acemoglu, D. and Restrepo, P. (2019). Automation and New Tasks: How Technology Displaces and Reinstates Labor. *Journal of Economic Perspectives*, 33(2), pp. 3–30
4. Autor, D., Mindell, D. and Reynolds, E. (2022). *The Work of the Future: Building Better Jobs in an Age of Intelligent Machines*. Cambridge, MA: MIT Press
5. Seymour, W. and Craig, R. (2023). *Essential Skills Tracker 2023*. London: Skills Builder Partnership
6. Craig, R. and Stewart, G. (2025). *Essential Skills Tracker 2025: Driving social mobility and growth through the AI transition*. London: Skills Builder Partnership
7. OECD (2025). *Survey of Adult Skills 2023 Technical Report*. OECD Skills Studies. Paris: OECD Publishing
8. OECD (2021). *The Assessment Frameworks for Cycle 2 of the Programme for the International Assessment of Adult Competencies*. OECD Skills Studies. Paris: OECD Publishing

## 1.1. The New Construct: Adaptive Problem Solving

The OECD's PIAAC Cycle 2 (2023) represents a conceptual evolution in the measurement of adult competencies (OECD, 2021).<sup>9</sup> The first cycle of PIAAC (2012) assessed "Problem Solving in Technology-Rich Environments" (PS-TRE), which focused on assessing individuals' ability to use "digital technology, communication tools and networks to evaluate information, communicate with others and perform practical tasks"<sup>10</sup>. While innovative, this measure combined problem-solving capacity with digital literacy and focused on relatively static tasks<sup>11 12</sup>. Its assessment and usage was relevant for the workforce at the time where it was discovered use of technology, and educational attainment, resulted in wage inequality<sup>13</sup>.

The new assessment framework replaces PS-TRE with Adaptive Problem Solving (APS), which the OECD defines as:

**"...the capacity to achieve one's goals in a dynamic situation where a solution is not immediately available, requiring engagement in cognitive and metacognitive processes (defining, searching, applying)".<sup>14</sup>**

This focus on adaptive capacity aligns with the foundational "task-based" model of the labour market.<sup>15</sup> Psychological research on "Complex Problem Solving" confirms this is a distinct competency, separate from general intelligence or literacy, defined by the ability to act in opaque, dynamic systems.<sup>16</sup>

This paper replicates and expands upon the seminal work of Hanushek et al. (2015), which used PIAAC Cycle 1 data to demonstrate robust wage returns to cognitive skills across the globe.<sup>17</sup> Their findings were particularly strong for the UK, where the return to problem solving skills was exceptionally high, even dominating the estimated return to numeracy in their pooled models.<sup>18</sup> This research provides the benchmark for our analysis. Our objective is to test whether this return to problem-solving persists when using the new, more dynamic and clearly defined APS construct.

9. OECD (2021). The Assessment Frameworks for Cycle 2 of the Programme for the International Assessment of Adult Competencies. OECD Skills Studies. Paris: OECD Publishing
10. PIAAC Expert Group on Problem Solving in Technology-Rich Environments (2009). PIAAC Problem Solving in Technology-Rich Environments: A Conceptual Framework. OECD Education Working Papers, No. 36. Paris: OECD Publishing.
11. OECD (2021). The Assessment Frameworks for Cycle 2 of the Programme for the International Assessment of Adult Competencies. OECD Skills Studies. Paris: OECD Publishing
12. OECD (2025). Survey of Adult Skills 2023 Technical Report. OECD Skills Studies. Paris: OECD Publishing
13. Candidus et al. (2019). Problem Solving in Technology-Rich Environments, Adult Education and Training, and Income: An International Comparisons Using PIAAC Data [Paper presentation]. Commission for International Adult Education (CIAE) Annual Conference, St. Louis, MO, United States.
14. OECD (2021). The Assessment Frameworks for Cycle 2 of the Programme for the International Assessment of Adult Competencies. OECD Skills Studies. Paris: OECD Publishing; OECD (2024). Survey of Adult Skills – Reader's Companion. OECD Skills Studies. Paris: OECD Publishing
15. Acemoglu, D. and Autor, D. (2011). Skills, Tasks and Technologies: Implications for Employment and Earnings. Handbook of Labor Economics, 4B, pp. 1043-1171
16. Greiff, S., Wüstenberg, S. and Funke, J. (2012). Dynamic Problem Solving: A New Assessment Perspective. Applied Psychological Measurement, 36(3), pp. 189-213
17. Hanushek, E. A., Schwerdt, G., Wiederhold, S., & Woessmann, L. (2015). Returns to skills around the world: Evidence from PIAAC. *European Economic Review* 73, pp. 103-130
18. *ibid*

## 1.2. The Policy Imperative: A Portfolio of Skills

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Our analysis does not treat APS in isolation. The Essential Skills Tracker series has consistently shown that the greatest economic and social advantages accrue to individuals who possess a broad portfolio of essential skills.<sup>19 20</sup> Essential skills are defined within the Universal Framework as: Teamwork; Leadership; Problem Solving; Creativity; Planning; Adapting; Listening; and Speaking<sup>21</sup>.

Essential skills, when controlling for literacy, numeracy and social advantage, are linked to a significant wage premium, lower risks of unemployment, and greater social mobility. However, individuals who typically see the best outcomes have a *combination* of high levels of essential skills, literacy and numeracy.<sup>22</sup>

The PIAAC Cycle 2 dataset reinforces this “portfolio” perspective by introducing another novel element: the measurement of Social and Emotional Skills (SES).<sup>23</sup> For the first time, the survey includes measures derived from the “Big Five” personality framework: Agreeableness, Conscientiousness, Emotional Stability, Extraversion, and Openness.<sup>24</sup>

The inclusion of SES is not merely additive; it could help in isolating the true return to APS. This approach is grounded in the work of Heckman and Kautz, who establish that “non-cognitive”<sup>25</sup> skills are major drivers of life outcomes and critically influence the acquisition of cognitive skills. Empirical studies have long confirmed direct wage returns to traits such as Conscientiousness and Emotional Stability.<sup>26</sup> Therefore, controlling for SES when modeling the unique contribution of APS to wage outcomes contributes to reducing omitted variable bias and furthers our understanding of the returns to skills.

19. Seymour, W. and Craig, R. (2023). *Essential Skills Tracker 2023*. London: Skills Builder Partnership

20. Craig, R. and Stewart, G. (2025). *Essential Skills Tracker 2025: Driving social mobility and growth through the AI transition*. London: Skills Builder Partnership

21. Ravenscroft, T. (2025) Skills Builder Universal Framework for Essential Skills 2.0. London: Skills Builder Partnership

22. Seymour, W. and Craig, R. (2023). *Essential Skills Tracker 2023*. London: Skills Builder Partnership

23. OECD (2024). *Skills that Matter for Success and Well-being in Adulthood: Evidence on Adults' Social and Emotional Skills from the 2023 Survey of Adult Skills*. OECD Skills Studies. Paris: OECD Publishing

24. *ibid*

25. Heckman, J. J. and Kautz, T. (2012). Hard evidence on soft skills. *Labour Economics*, 19(4), pp. 451-464

26. Nyhus, E. K. and Pons, E. (2005). The effects of personality on earnings. *Journal of Economic Psychology*, 26(3), pp. 363-384

# From Construct to Application: The Universal Framework



## 2. From Construct to Application: The Universal Framework

### 2.1. The Universal Framework

Essential skills are those highly transferable skills that everyone needs to do almost any job, which make specific knowledge and technical skills fully productive. These are therefore distinct from basic skills (literacy, numeracy and digital skills) and technical skills (specific to a particular sector or role, sometimes drawing off a particular body of knowledge). In the research literature, they are sometimes referred to as (*inter alia*) “transversal”, “higher order cognitive”, “transferable”, “soft” or “life” skills.



The updated Universal Framework (Version 2.0) was launched in 2025 after a rigorous review of the previous version of the Framework. Combining expert input, consultation and user testing alongside data analysis of real-life usage and semantic analysis of other leading skills frameworks, this review ensured the Universal Framework 2.0 is the world’s leading way of building and measuring essential skills as measured by usability and skill density (completeness and relevance).<sup>27</sup>

The Universal Framework is used across settings and sectors to build and measure essential skills around the globe. Last year alone, Skills Builder quality assured 2,462,000 meaningful opportunities for individuals to build their essential skills using the Universal Framework. It is used in schools across 25 countries, in 330 approved international programmes available in 42 countries, as well as by leading employers.

### 2.2. Practical application of the APS construct

A central challenge in human capital policy is bridging the gap between high-level measurement and practical intervention. While PIAAC provides a robust, cross-national measure of Adaptive Problem Solving,<sup>28</sup> it does not, by design, offer a pedagogical framework for developing it.

This is the role of the Skills Builder Universal Framework. It provides the necessary translation mechanism, demonstrating how the construct measured by PIAAC can be systematically taught and acquired. The APS construct, defined by its focus on “dynamic situations” and “metacognitive processes”<sup>29 30</sup>, aligns directly with steps of the Framework’s Problem Solving skill.

27. Ravenscroft, Craig, Stewart (2025): *Universal Framework Review 2025: Final Report*

28. OECD (2021). *The Assessment Frameworks for Cycle 2 of the Programme for the International Assessment of Adult Competencies*. OECD Skills Studies. Paris: OECD Publishing

29. *ibid*

30. OECD (2024). *Survey of Adult Skills – Reader’s Companion*. OECD Skills Studies. Paris: OECD Publishing

For example, the metacognitive loop of “defining, searching, applying”<sup>31</sup> and dynamically responding to change is explicitly deconstructed in the Framework’s mastery steps, including:

- “Hypothesis testing: I structure ideas so I can test them” (Step 13),
- “Strategic planning: I develop strategic plans to address complex problems” (Step 14),
- “Evaluating approaches: I evaluate the success of strategic plans” (Step 15),
- “Continual learning: I improve strategic plans based on new insights” (Step 16).<sup>32</sup>

Semantic analysis reveals that the APS construct is comprehensively covered by the eight essential skills as set out in the Universal Framework. 80% of APS descriptors have a match in the framework, with an average match score of 0.56. For example:

APS descriptor	Framework match 1	Framework match 2	Framework match 3
Integrate multiple sources of information and their interactions, identify and disregard irrelevant information, and formulate relevant cues.	Listening Step 16 - Evaluating perspectives: I objectively evaluate and integrate different perspectives	Problem Solving Step 10 - Recognising patterns: I identify patterns to gain insight	Problem Solving Step 11 - Systems thinking: I identify how parts of a system impact each other
Identify and apply multi-step solutions towards one or more complex goals	Planning Step 7 - Thinking ahead: I think about routes to achieve a goal	Problem Solving Step 14 - Strategic planning: I develop strategic plans to address complex problems	Problem Solving Step 5 - Creating options: I create different possible solutions to a problem
Search for solutions by setting sub-goals and evaluating alternative solutions to the problem	Planning Step 7 - Thinking ahead: I think about routes to achieve a goal	Problem Solving Step 5 - Creating options: I create different possible solutions to a problem	Problem Solving Step 7 - Evaluating options: I choose between possible solutions based on success criteria

Figure 1: Illustrative selection of APS descriptors, mapped to the three steps in the Universal Framework with the highest semantic similarity.

For a full mapping of the APS construct to the Universal Framework, along with the methodology, see appendices.

By quantifying the economic return on the APS construct, this paper simultaneously validates the pressing need to invest in the practical approaches shown to build it on the ground. The Universal Framework’s consistent, granular, and teachable structure is the actionable solution to developing the highly-valued APS competencies that this paper aims to quantify.<sup>33 34</sup>

31. OECD (2021). *The Assessment Frameworks for Cycle 2 of the Programme for the International Assessment of Adult Competencies*. OECD Skills Studies. Paris: OECD Publishing

32. *ibid*

33. Seymour, W. and Craig, R. (2023). *Essential Skills Tracker 2023*. London: Skills Builder Partnership

34. Craig, R. and Stewart, G. (2025). *Essential Skills Tracker 2025: Driving social mobility and growth through the AI transition*. London: Skills Builder Partnership

Problem solving skills  
drive higher income



# 3. Problem solving skills drive higher income

## 3.1. Context

The essential skill of problem solving is defined in the Skills Builder Universal Framework as “finding solutions to challenges”.<sup>35</sup> Problem solving skills are important as they “enable individuals to adapt, innovate and leverage technology”.<sup>36</sup>

The outcomes associated with problem solving skills can be largely situated in the broader “returns to skills” literature. This body of work can be traced back to Mincer, (see also Schulz), who measured human capital as the amount of schooling individuals had completed.<sup>37 38</sup> The variables accounting for human capital have evolved and become more granular and nuanced over time: “A growing body of work in economics documents the labor market return to “noncognitive” skills, including social skills and leadership skills.”<sup>39</sup>

Previous research has demonstrated that higher levels of problem solving are associated with improved outcomes. For example, a 2015 study using Swedish data found that a one standard deviation higher level of Complex Problem Solving was associated with 10–20% higher hourly wages. Previous installments in the Essential Skills Tracker series found a wage premium of between 8.9% and 14.6% associated with moving from the lower to upper quartile of essential skill level, including problem solving. This wage premium was further validated by NFER’s work, which found a similar wage premium.<sup>41 42</sup>

The previous cycle of PIAAC included a construct called *problem solving in technology rich environments (PSTRE)* alongside measures of literacy and numeracy. This constituted the ability to use digital technology, communication tools and networks to acquire and evaluate information, communicate with others and perform practical tasks.<sup>43</sup>

35. Ravenscroft, Craig, Stewart (2025): *Universal Framework Review 2025: Final Report*

36. OECD (2024), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023*, OECD Skills Studies, OECD Publishing, Paris

37. Mincer, J., 1970. The distribution of labor incomes: a survey with special reference to the human capital approach. *Journal of economic literature*, 8(1), pp.1-26

38. Schultz, T. W. (1961). Investment in Human Capital. *The American Economic Review*, 51(1), 1–17. <http://www.jstor.org/stable/1818907>

39. Deming, D. (2017). The Growing Importance of Social Skills in the Labor Market. *The Quarterly Journal of Economics*, Volume 132, Issue 4, November 2017, Pages 1593–1640

40. Peer Ederer, Ljubica Nedelkoska, Alexander Patt & Silvia Castellazzi (2015) What do employers pay for employees’ complex problem solving skills?, *International Journal of Lifelong Education*, 34:4, 430-447

41. Craig, R. and Stewart, G. (2025). *Essential Skills Tracker 2025: Driving social mobility and growth through the AI transition*. London: Skills Builder Partnership

42. Boccock, L., Del Pozo, J. and Hillary, J. (2024). Rethinking skills gaps and solutions. Technical Supplement Part A to Working Paper 4 of *The Skills Imperative 2035: Essential skills for tomorrow’s workforce*. Slough: NFER.

43. PIAAC Expert Group on Problem Solving in Technology-Rich Environments (2009). *PIAAC Problem Solving in Technology-Rich Environments: A Conceptual Framework*. OECD Education Working Papers, No. 36. Paris: OECD Publishing.

Seminal work by Hanushek found meaningful returns to problem-solving skills in the first PIAAC cycle, even when controlling for other skills. While the impact of problem solving was found to be small in some countries, in Czechia, the Slovak Republic and the United Kingdom it was larger than numeracy and in six countries it was larger than literacy.<sup>44</sup>

As discussed earlier within this report, the latest cycle of PIAAC replaced the previous problem solving construct with a new one: *Adaptive Problem Solving*. It is the latest in an evolution of continually refining the variables of human capital and understanding how skills drive economic outcomes.

The Adaptive Problem Solving (APS) construct involves “the capacity to achieve one’s goals in a dynamic situation in which a method for solution is not immediately available. It requires engaging in cognitive and metacognitive processes to define the problem, search for information, and apply a solution in a variety of information environments and contexts.”<sup>45</sup>

APS has three features:

1. capacity to flexibly and dynamically adapt their problem-solving strategies to a dynamically changing environment
2. ability to identify and select among a range of available physical, social and digital resources.
3. monitoring and reflecting on progress in solving problems, through metacognitive processes.<sup>46</sup>

## 3.2. Findings

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The relationship between Adaptive Problem Solving (APS) and individual income levels is reflective of previous research. According to the OECD, a one-standard deviation increase in APS proficiency is associated with a 7% higher hourly wage across the pooled international sample.<sup>47</sup>

Our analysis aimed to further evaluate the relationship between APS and income, whilst also taking into account additional factors of years of schooling and potential experience defined as:

$$\text{Potential Experience} = \text{Age} - \text{Years of Schooling} - 6$$

Controls for person-specific factors such as gender and the “Big Five” personality traits (Agreeableness, Conscientiousness, Emotional Stability, Extraversion, and Openness) were also included to ensure that the observed wage premium was attributable to APS proficiency, rather than inherited personality characteristics.

44. Hanushek, E. A., Schwerdt, G., Wiederhold, S., & Woessmann, L. (2015). Returns to skills around the world: Evidence from PIAAC. *European Economic Review* 73, pp. 103-130

45. Greiff, S. et al. (2021), “PIAAC Cycle 2 assessment framework: Adaptive problem solving”, in *The Assessment Frameworks for Cycle 2 of the Programme for the International Assessment of Adult Competencies*, OECD Publishing, Paris

46. OECD (2024), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023*, OECD Skills Studies, OECD Publishing, Paris

47. OECD (2023). *Adult problem solving skills*. [online] Available at: <https://www.oecd.org/en/topics/adult-problem-solving-skills.html> [Accessed 07 January 2026]

Following the methodology of Hanushek (2015)<sup>48</sup>, we used a Mincer-style earnings regression to model the natural log of wages ( $W$ ) as a function of years of schooling ( $S$ ), potential experience ( $X$ ), and controls ( $Z$ )<sup>49</sup>:

$$\ln(W) = \alpha_0 + \beta_1 S + \beta_2 X + \beta_3 X^2 + \gamma Z + \varepsilon$$

Due to limitations of the Public Use Files (PUF) (see Appendix A), in some cases actual earnings for individuals were not published and, instead, decile medians were reported. It was found in Cycle 1 data that using wages as calculated with the median made little to no difference on the outcome of the model.<sup>50</sup> As such, wages calculated using decile medians for the country were used in replacement of exact earnings.

In line with the OECD’s pooled findings, our models showed that higher levels of APS resulted in increased earnings across all countries analysed. A one standard deviation increase in APS proficiency is associated with earning increases ranging from 3.7% (Poland) to 17.3% (Chile). In the UK, this proficiency is associated with a 13.9% increase in wages.



Figure 2: Percentage change in wages per one standard deviation increase in APS

Whilst proficiency in Adaptive Problem Solving (APS) provides a wage premium, its impact varies depending on where an individual is within their career. Categorising full time workers into entry-age (18-34), prime-age (35-54) and exit age (55+), APS had the greatest impact on prime-age workers in most of the countries explored in this analysis.

48. Hanushek, E. A., Schwerdt, G., Wiederhold, S., & Woessmann, L. (2015). Returns to skills around the world: Evidence from PIAAC. *European Economic Review* 73

49. Jacob A. Mincer (1974), “The Human Capital Earnings Function,” in *Schooling, Experience, and Earnings* (NBER), pp 83–96

50. Hanushek, E. A., Schwerdt, G., Wiederhold, S., & Woessmann, L. (2015). Returns to skills around the world: Evidence from PIAAC. *European Economic Review* 73

Country name	Age group where APS has the most impact on earnings
Lithuania	entry-age (18-34)
Poland	entry-age (18-34)
Austria	prime-age (35-54)
Chile	prime-age (35-54)
Czechia	prime-age (35-54)
Ireland	prime-age (35-54)
Italy	prime-age (35-54)
Latvia	prime-age (35-54)
Portugal	prime-age (35-54)
United Kingdom	prime-age (35-54)
Croatia	exit-age (55+)

Figure 3: table showing age group where APS has the most impact on earnings for full time workers.

In these countries where APS has the largest impact on wages for prime-age workers it suggests that once individuals begin progressing within their role, their higher levels of APS, and therefore greater ability to adapt with the role, enables accelerated progression and wage premiums. This shift does not, however, suggest that APS, and other essential skills, are less critical in entry-level roles in these countries; research confirms a distinct wage premium for those with higher levels of essential skills, across all career levels and ages.<sup>51</sup> It instead highlights the compounding effect of developing higher levels of APS.

51. Seymour, W. and Craig, R. (2023). *Essential Skills Tracker 2023*. London: Skills Builder Partnership

# Problem solving skills boost social mobility



# 4. Problem solving skills boost social mobility

## 4.1 Context

Social mobility can be described as “how a person’s socio-economic situation improves or declines relative to that of their parents or throughout their lifetime”.<sup>52</sup> In economic terms, a common way to measure social mobility is through the income disparity between individuals based on their parents’ educational attainment. Previous instalments in the Essential Skills Tracker series found the existence of a persistent “Skills Trap”, where individuals from less advantaged backgrounds face a cycle of restricted opportunities leading to worse outcomes.

The cycle begins early in life; individuals from less advantaged backgrounds tend to have fewer opportunities to actively and deliberately build their skills. This results in a disadvantageous position from a young age, where lower proficiency levels in skills subsequently results in later employment in lower-skilled roles with reduced earnings. Outside of work, those who had fewer opportunities to build their skills also tend to have decreased life satisfaction<sup>53</sup>.



52. OECD. (2025). To have and have not: How to bridge the gap in opportunities. OECD Publishing. <https://www.oecd.org/en/topics/social-mobility-and-equal-opportunity.html> [Accessed: 01/02/2026]

53. Seymour, W. and Craig, R. (2023). *Essential Skills Tracker 2023*. London: Skills Builder Partnership

Escaping the “Skills Trap” requires more than just basic proficiency in numeracy and literacy; previous research suggests that having higher proficiency in essential skills, including problem solving, enables individuals to overcome initial socio-economic disadvantages and boosts social mobility.<sup>54</sup>

## 4.2. Findings

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PIACC Cycle 2 data shows the relationship between Adaptive Problem Solving (APS) and individual earnings extends to the broader challenge of social mobility and being able to escape the Skills Trap. While previously referenced analysis confirms higher APS proficiency is correlated with higher income, the data also reveals that an individual’s background, specifically parental education levels, remains a strong predictor of both their skill level and their eventual earnings. This reinforces the existence of the Skills Trap, where limited early opportunities to develop essential skills lead to lower-skilled employment and reduced life satisfaction.

The PIAAC data supports previous findings that essential skills can help individuals escape the Skills Trap and boost social mobility. Perhaps unsurprisingly, both an individual’s formal education and their parental background remain strong predictors of their overall APS proficiency. However, the statistical interaction between these two variables is not significant. In practical terms, this lack of interaction means that privilege does not unfairly multiply the value of learning: the economic benefits of developing problem solving skills are consistent regardless of a person’s starting point.

Ultimately, these findings indicate that while social advantage may currently influence access to skill development, the skills themselves, once mastered, act as a powerful mechanism for escaping the skills trap and fostering genuine social mobility.

54. Seymour, W. and Craig, R. (2023). *Essential Skills Tracker 2023*. London: Skills Builder Partnership

# Discussion



## 5. Discussion

The introduction of *Adaptive Problem Solving* as a replacement for *Problem Solving In Technology Rich Environments*, and the links between higher levels of this skill and income are reflective of a global shift towards more human-centered skills.

Previous Essential Skills Tracker installments found links between Essential Skills, such as Problem Solving, and an increase in wages, wellbeing and reduction in unemployment within the UK.<sup>55</sup> PIAAC Cycle 2 data provides a platform to explore whether these correlations persist globally through the lens of Adaptive Problem Solving (APS). Although this construct is different from problem solving as defined by the widely adopted Universal Framework, mapping using Language models highlights the overlap between the Universal Framework and APS.

While the PIAAC data shows a clear relationship between Adaptive Problem Solving and economic and social outcomes, the data reveals the limitations of this single assessment construct. In particular, there is high multi-collinearity between literacy, numeracy and Adaptive Problem Solving in Cycle 2 of PIAAC. While each independently predicts other outcomes, when adding the other terms to regression models, there is little or even negative improvement to their predictive value.

The correlation scores between the three skills sits at approximately 0.88. During Cycle 1, the correlation between PR-TRE and literacy and numeracy was lower at 0.79 and 0.73, respectively.<sup>56</sup> While this shows a strong relationship between these competencies, it is important to note that this level of correlation is consistent with the relationship between literacy and numeracy themselves (0.89). Literacy and numeracy measure different aspects, and given that the correlations are consistent, it therefore does not suggest that APS is assessing the same constructs as literacy and numeracy, nor does it indicate that APS is merely a proxy for general intelligence.

The high correlation between the constructs does, however, suggest that there is a need for differentiated measures of essential skills. The Universal Framework provides this granularity by breaking this into eight essential skills, each with 16 steps. The APS was designed as an objective assessment, in contrast, the purpose of the Universal Framework is as a teaching, learning or workforce planning tool. We therefore do not seek to draw any direct comparisons between the two constructs. Instead, this paper analyses some of the differences and their implications.

Ultimately, this analysis validates both of the hypotheses outlined; the increased wage premium highlights how APS boosts income & productivity, and the non-significant relationship between parental education and wages where APS levels are included shows how this construct can support in overcoming initial social-economic disadvantages, boosting social mobility. These findings further highlight the importance of problem solving skills, and while APS identified these high level returns across multiple countries, the Universal Framework provides actionable steps for individuals to intentionally and explicitly build and master these skills.

55. Seymour, W. and Craig, R. (2023). *Essential Skills Tracker 2023*. London: Skills Builder Partnership

56. Hanushek, E. A., Schwerdt, G., Wiederhold, S., & Woessmann, L. (2015). Returns to skills around the world: Evidence from PIAAC. *European Economic Review* 73

# Appendices



# APPENDIX A

## Methodology

### PIAAC Data Analysis

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This analysis utilises the Public Use Files (PUF) from the OECD's Programme for the International Assessment of Adult Competencies (PIAAC) Cycle 2 (2023). PIAAC is a large-scale international survey that measures adults' proficiency in skills around the world. The previous iteration of PIAAC was Cycle 1, which included literacy, numeracy and problem solving in technology rich environments (PS-TRE). Cycle 2 was altered to remove PS-TRE and replace this with adaptive problem solving (APS).

The dataset is designed to be used to analyse the competencies across each nation in a comparable way, rather than at an individual level. Due to this, the competency scores for numeracy, literacy and APS are given as 10 plausible values (PV) rather than raw scores for each skill. These plausible values are statistical estimates of the likely position of each respondent on the proficiency scale for that skill. The scales for each are also not directly comparable; an individual who has a higher score in literacy than numeracy is not necessarily better at literacy as the scales are not aligned<sup>57</sup>.

In addition to usage of PVs, full sample weighting and 80 replicate weights are required to be applied within analysis to ensure accuracy in results as well as correct imputation and sampling errors calculations<sup>58</sup>.

To adhere to the data guidelines, within this analysis all PIAAC data was analysed using the Stata macro `repest` within a single environment. This macro is specifically written for handling complex datasets such as this by correctly applying the weightings for all plausible values<sup>59</sup>.

### Semantic analysis

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Language models were used to compare the PIAAC Adaptive Problem Solving framework and the Skills Builder Universal Framework.

The Adaptive Problem Solving framework was broken down into levels, categories and descriptions. To isolate the core functional semantics of each descriptor, the raw text was preprocessed to remove repetitive filler phrases (e.g., 'Adults at this level are able to...'). This pre-processing reduced the risk of inaccurate or inflated similarity scores by ensuring comparisons were based on the focus of each aspect of APS.

57. OECD (2025), Survey of Adult Skills 2023 Data Analysis Manual, OECD Publishing, Paris, <https://doi.org/10.1787/25a87a9d-en>.

58. *ibid*

59. Avvisati, F. & Keslair, F. (2014). REPEST: Stata module to run estimations with weighted replicate samples and plausible values. Statistical Software Components S457918, Boston College Department of Economics.

After pre-processing of data was completed, the similarity scores were generated using a two-step process. First, two pre-trained Bi-Encoders (BERT-based and OpenAI models) were used to convert the sentences into vectors and compared based on the cosine similarity of these. To ensure full accuracy in comparisons, skills with matches from either Bi-Encoder model were then passed through a Cross-Encoder (RoBERTa). A Cross-Encoder model analyses the similarity between sentence pairs, rather than converting sentences into vectors. This sentence-by-sentence comparison re-ranks and re-evaluates the top matches of the Bi-Encoder models to generate a more accurate similarity score and match between the two frameworks.

A 'match' was considered to be relevant when the similarity score of the Cross-Encoder model was above 0.4. This threshold was used to account for semantic differences, ensuring that conceptually similar skills were not excluded simply due to variations in wording.

## Limitations

Several limitations applied to the data analysis.

### Public Use Files

As outlined previously, raw wages were not published in the Public Use Files for all countries. Data was analysed and retrieved from the OECD PIAAC database in November 2025 for the public use files of: Austria, Belgium (Flemish Region), Canada, Chile, Croatia, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, New Zealand, Norway, Poland, Portugal, Singapore, Slovak Republic, Spain, Sweden, Switzerland, United Kingdom (England), United States<sup>60</sup>.

In some cases this was provided as decile medians, and in other cases wage data was omitted entirely. Where wage data was supplied as a decile, the equivalent median wage was calculated and used. As the analysis focused predominantly on the impact of adaptive problem solving and income, and used only Public Use files, the analysis does not cover all 31 countries included within PIAAC Cycle 2.

### High correlation coefficients

The high correlation between the skills is also a limitation of this analysis. The average scores within Cycle 2 exceeded the scores of the skills in Cycle 1. As shown in the below table, the Person correlation coefficients between these variables were exceptionally high, with all pairs exceeding  $r = 0.86$  ( $p < 0.001$ ).

	Correlation coefficient	Std. error	P-value
PVLIT__PVNUM	0.8899002	0.0020865	< 0.001
PVLIT__PVAPS	0.8837053	0.0021965	< 0.001
PVNUM__PVAPS	0.8677542	0.0025028	< 0.001

Although modelling on each construct was possible, in a Mincer-style regression model, including two or more of these constructs as independent predictors resulted in inflated standard errors and unstable coefficients. As such, it was not possible to control for the impact of APS whilst also controlling for literacy and numeracy without risking unreliable results.

60. OECD. PIAAC 2nd Cycle Database. 2024, <https://www.oecd.org/en/data/datasets/piaac-2nd-cycle-database.html>. [Accessed: 21 November 2025]

## APPENDIX B

## Semantic analysis full breakdown table

	APS Level	Category	Description	Match ('Match', 1)	Match ('Match', 2)	Match ('Match', 3)	Match ('Score', 1)	Match ('Score', 2)	Match ('Score', 3)
0	Level 4	General	Define the nature of problems in ill-structured and information-rich contexts.	Problem Solving - 3 - Sharing problems Sharing problems I describe problems to others	Problem Solving - 12 - Logical reasoning Logical reasoning I use logical reasoning to structure problems	Problem Solving - 4 - Finding information Finding information I find information to complete a task	0.4227948189	0.3466500938	0.3442154229
1	Level 4	General	Integrate multiple sources of information and their interactions, identify and disregard irrelevant information, and formulate relevant cues.	Listening - 16 - Evaluating perspectives Evaluating perspectives I objectively evaluate and integrate different perspectives	Problem Solving - 10 - Recognising patterns Recognising patterns I identify patterns to gain insight	Problem Solving - 11 - Systems thinking Systems thinking I identify how parts of a system impact each other	0.5993084311	0.4086755216	0.3481634855
2	Level 4	General	Identify and apply multi-step solutions towards one or more complex goals.	Planning - 7 - Thinking ahead Thinking ahead I think about routes to achieve a goal	Problem Solving - 14 - Strategic planning Strategic planning I develop strategic plans to address complex problems	Problem Solving - 5 - Creating options Creating options I create different possible solutions to a problem	0.6556621194	0.6476300359	0.5963531733
3	Level 4	General	Distinguish between relevant and irrelevant changes, predict future developments of the problem situation, and consider multiple criteria simultaneously to judge whether the solution process is likely to lead to success.	Problem Solving - 7 - Evaluating options Evaluating options I choose between possible solutions based on success criteria	Planning - 15 - Adaptive planning Adaptive planning I use data to evaluate progress and make adaptations	Problem Solving - 6 - Analysing options Analysing options I identify advantages and disadvantages of potential solutions	0.6370170712	0.5789142847	0.5447430015
4	Level 4	Cognitive processes	develop complex mental models of problems by integrating information from multiple sources	Problem Solving - 14 - Strategic planning Strategic planning I develop strategic plans to address complex problems	Problem Solving - 12 - Logical reasoning Logical reasoning I use logical reasoning to structure problems	Creativity - 6 - Combining concepts Combining concepts I can combine ideas to make new ones	0.5522431135	0.4837940633	0.4523884356
5	Level 4	Cognitive processes	establish connections between tasks and stimuli even if these connections are difficult to detect or contain complex interactions	Problem Solving - 11 - Systems thinking Systems thinking I identify how parts of a system impact each other	Problem Solving - 10 - Recognising patterns Recognising patterns I identify patterns to gain insight	Problem Solving - 4 - Finding information Finding information I find information to complete a task	0.449397862	0.3168592751	0.2451949269
6	Level 4	Cognitive processes	develop strategies to reach several goals in parallel and implement multi-step solutions, and continuously update their mental model, search strategies, and solutions during problem solving	Problem Solving - 14 - Strategic planning Strategic planning I develop strategic plans to address complex problems	Planning - 11 - Using skills Using skills I plan how to use and build my skills to achieve goals	Creativity - 4 - Generating ideas Generating ideas I create ideas to solve a problem	0.6828258038	0.6116595864	0.5861307383
7	Level 4	Metacognitive processes	continuously reflect and monitor the problem-solving process even if the environment is complex and changes unexpectedly,	Adapting - 5 - Reflective learning Reflective learning I reflect and learn from challenges	Problem Solving - 14 - Strategic planning Strategic planning I develop strategic plans to address complex problems	Creativity - 4 - Generating ideas Generating ideas I create ideas to solve a problem	0.6040696502	0.4205344617	0.2894791365
8	Level 4	Metacognitive processes	constantly revisit and reevaluate their mental model, the available information, and goal attainment,	Planning - 7 - Thinking ahead Thinking ahead I think about routes to achieve a goal	Planning - 11 - Using skills Using skills I plan how to use and build my skills to achieve goals	Adapting - 5 - Reflective learning Reflective learning I reflect and learn from challenges	0.438777864	0.3126090765	0.2743289471
10	Level 4	Metacognitive processes	cope with frequent and unpredictable change and adapt their solution strategy accordingly	Adapting - 13 - Adapting plans Adapting plans I change plans to work through setbacks	Planning - 15 - Adaptive planning Adaptive planning I use data to evaluate progress and make adaptations	Problem Solving - 6 - Analysing options Analysing options I identify advantages and disadvantages of potential solutions	0.4808589816	0.4343469143	0.2566434741
11	Level 3	General	understand problems that are either more complex static problems or problems that have an average to high level of dynamics.	Problem Solving - 14 - Strategic planning Strategic planning I develop strategic plans to address complex problems	Problem Solving - 12 - Logical reasoning Logical reasoning I use logical reasoning to structure problems	Problem Solving - 11 - Systems thinking Systems thinking I identify how parts of a system impact each other	0.4017264843	0.3392158747	0.3369375765

	APS Level	Category	Description	Match ('Match', 1)	Match ('Match', 2)	Match ('Match', 3)	Match ('Score', 1)	Match ('Score', 2)	Match ('Score', 3)
12	Level 3	General	solve problems with multiple constraints or problems that require the attainment of several goals in parallel	Problem Solving - 14 - Strategic planning Strategic planning I develop strategic plans to address complex problems	Planning - 8 - Prioritising Prioritising I order and prioritise tasks to achieve goals	Planning - 11 - Using skills Using skills I plan how to use and build my skills to achieve goals	0.5458940864	0.5431689024	0.4791547358
13	Level 3	General	In problems that change and require adaptivity, deal with frequent and, to some extent, continuous changes.	Planning - 15 - Adaptive planning Adaptive planning I use data to evaluate progress and make adaptations	Planning - 16 - Agile planning Agile planning I work flexibly and responsively to improve my plans	Problem Solving - 14 - Strategic planning Strategic planning I develop strategic plans to address complex problems	0.4524826705	0.4073331058	0.3703231215
15	Level 3	General	Identify and apply multi-step solutions that integrate several important variables simultaneously and consider the impact of several problem elements on each other.	Problem Solving - 11 - Systems thinking Systems thinking I identify how parts of a system impact each other	Problem Solving - 5 - Creating options Creating options I create different possible solutions to a problem	Listening - 16 - Evaluating perspectives Evaluating perspectives I objectively evaluate and integrate different perspectives	0.7026472688	0.6435691714	0.5473117232
16	Level 3	General	In dynamically changing problems, predict future developments in the problem situation based on information collected from past developments.	Planning - 15 - Adaptive planning Adaptive planning I use data to evaluate progress and make adaptations	Problem Solving - 10 - Recognising patterns Recognising patterns I identify patterns to gain insight	Problem Solving - 14 - Strategic planning Strategic planning I develop strategic plans to address complex problems	0.5913904905	0.5166782737	0.3832938373
17	Level 3	General	Adapt behaviour according to the predicted change engage in the following cognitive processes	Planning - 15 - Adaptive planning Adaptive planning I use data to evaluate progress and make adaptations	Teamwork - 2 - Adjusting behaviour Adjusting behaviour I behave in a way that fits the setting	Leadership - 16 - Leading adaptively Leading adaptively I adapt my leadership style to the situation	0.5180660486	0.4185359478	0.1832859367
18	Level 3	Cognitive processes	generate mental models for moderately to highly complex problems	Problem Solving - 5 - Creating options Creating options I create different possible solutions to a problem	Creativity - 4 - Generating ideas Generating ideas I create ideas to solve a problem	Problem Solving - 12 - Logical reasoning Logical reasoning I use logical reasoning to structure problems	0.5805177689	0.5586807728	0.5180466175
19	Level 3	Cognitive processes	actively search for solutions by continuously evaluating the information provided in the problem environment	Adapting - 11 - Practising resilience Practising resilience I look for opportunities when faced with challenges	Planning - 13 - Seeking feedback Seeking feedback I seek out a range of views to improve plans	Creativity - 4 - Generating ideas Generating ideas I create ideas to solve a problem	0.7262923121	0.566215992	0.5601624846
21	Level 3	Metacognitive processes	monitor comprehension of the problem and the changes in the problem	Problem Solving - 9 - Exploring causation Exploring causation I analyse causes and effects	Planning - 15 - Adaptive planning Adaptive planning I use data to evaluate progress and make adaptations	Problem Solving - 3 - Sharing problems Sharing problems I describe problems to others	0.4278368354	0.4212368429	0.3657487035
22	Level 3	Metacognitive processes	monitor and evaluate progress towards the goal of the problem	Teamwork - 13 - Reflecting collectively Reflecting collectively I reflect on progress and suggest improvements	Planning - 15 - Adaptive planning Adaptive planning I use data to evaluate progress and make adaptations	Teamwork - 14 - Learning collectively Learning collectively I evaluate successes and failures and share lessons	0.6946713924	0.6390070319	0.6333526969
23	Level 3	Metacognitive processes	search for solutions by setting sub-goals and evaluating alternative solutions to the problem	Planning - 7 - Thinking ahead Thinking ahead I think about routes to achieve a goal	Problem Solving - 5 - Creating options Creating options I create different possible solutions to a problem	Problem Solving - 7 - Evaluating options Evaluating options I choose between possible solutions based on success criteria	0.6843895316	0.6787512302	0.5556102991
24	Level 3	Metacognitive processes	reflect on their approach to solving the problem and, if necessary, revise their strategy	Adapting - 5 - Reflective learning Reflective learning I reflect and learn from challenges	Problem Solving - 14 - Strategic planning Strategic planning I develop strategic plans to address complex problems	Problem Solving - 16 - Continual learning Continual learning I improve strategic plans based on new insights	0.5404129028	0.4373858869	0.4333103597
25	Level 2	General	Identify and apply solutions that consist of several steps in problems that require considering one target variable to judge whether the problem has been solved	Problem Solving - 5 - Creating options Creating options I create different possible solutions to a problem	Planning - 12 - Target setting Target setting I create plans with clear targets to measure success	Problem Solving - 7 - Evaluating options Evaluating options I choose between possible solutions based on success criteria	0.6670457125	0.6352882385	0.584962368

	APS Level	Category	Description	Match ('Match', 1)	Match ('Match', 2)	Match ('Match', 3)	Match ('Score', 1)	Match ('Score', 2)	Match ('Score', 3)
26	Level 2	General	In dynamic problems that exhibit change, identify relevant information if they are prompted to specific aspects of the change or if changes are transparent, occur only one at a time, relate to a single problem feature, and are easily accessible	Problem Solving - 10 - Recognising patterns Recognising patterns I identify patterns to gain insight	Problem Solving - 11 - Systems thinking Systems thinking I identify how parts of a system impact each other	Problem Solving - 4 - Finding information Finding information I find information to complete a task	0.655410707	0.5050584674	0.5015257597
27	Level 2	General	Problems at this level are presented in well-structured environments and contain only a few information elements with direct relevance to the problem	Leadership - 12 - Coaching Coaching I use structured questioning to help others	Problem Solving - 13 - Hypothesis testing Hypothesis testing I structure ideas so that I can test them	Problem Solving - 12 - Logical reasoning Logical reasoning I use logical reasoning to structure problems	0.5350515246	0.5255025625	0.4687892199
29	Level 2	Cognitive processes	develop mental models for simple to moderately difficult problems and adapt these as needed	Problem Solving - 5 - Creating options Creating options I create different possible solutions to a problem	Creativity - 4 - Generating ideas Generating ideas I create ideas to solve a problem	Problem Solving - 13 - Hypothesis testing Hypothesis testing I structure ideas so that I can test them	0.5892015696	0.5642915368	0.4354808331
32	Level 2	Metacognitive processes	monitor progress towards a solution that consists of one specific goal	Planning - 15 - Adaptive planning Adaptive planning I use data to evaluate progress and make adaptations	Teamwork - 13 - Reflecting collectively Reflecting collectively I reflect on progress and suggest improvements	Planning - 7 - Thinking ahead Thinking ahead I think about routes to achieve a goal	0.6016235352	0.5526810288	0.5495795012
33	Level 2	Metacognitive processes	search for optimal solutions by evaluating alternative solution paths within a given problem environment of low to moderate complexity	Problem Solving - 5 - Creating options Creating options I create different possible solutions to a problem	Problem Solving - 7 - Evaluating options Evaluating options I choose between possible solutions based on success criteria	Planning - 7 - Thinking ahead Thinking ahead I think about routes to achieve a goal	0.6121972203	0.5980937481	0.5804623961
34	Level 2	Metacognitive processes	reflect on the chosen solution strategy if an impasse occurs and when explicitly prompted to adapt.	Adapting - 5 - Reflective learning Reflective learning I reflect and learn from challenges	Problem Solving - 6 - Analysing options Analysing options I identify advantages and disadvantages of potential solutions	Problem Solving - 14 - Strategic planning Strategic planning I develop strategic plans to address complex problems	0.5114061832	0.3657631576	0.310705483
35	Level 1	General	understand simple problems and develop and implement solutions to solve them	Creativity - 4 - Generating ideas Generating ideas I create ideas to solve a problem	Creativity - 5 - Suggesting improvements Suggesting improvements I create ideas to make something better	Problem Solving - 14 - Strategic planning Strategic planning I develop strategic plans to address complex problems	0.6568357348	0.4695634842	0.4522599876
37	Level 1	General	Solutions at this level are simple and consist of a limited number of steps.	Listening - 2 - Recalling Recalling I remember simple instructions	Problem Solving - 5 - Creating options Creating options I create different possible solutions to a problem	Problem Solving - 7 - Evaluating options Evaluating options I choose between possible solutions based on success criteria	0.5294194818	0.3996251822	0.3229052424
38	Level 1	General	Problems are embedded in a context that includes one or two sources of information and presents a single, explicitly defined goal	Problem Solving - 4 - Finding information Finding information I find information to complete a task	Planning - 7 - Thinking ahead Thinking ahead I think about routes to achieve a goal	Problem Solving - 10 - Recognising patterns Recognising patterns I identify patterns to gain insight	0.4351162016	0.4200261235	0.1233863682
39	Level 1	Cognitive processes	develop mental models of simple and clearly structured problems	Problem Solving - 13 - Hypothesis testing Hypothesis testing I structure ideas so that I can test them	Problem Solving - 12 - Logical reasoning Logical reasoning I use logical reasoning to structure problems	Creativity - 4 - Generating ideas Generating ideas I create ideas to solve a problem	0.5972416997	0.5708042383	0.5297041535
40	Level 1	Cognitive processes	understand connections between tasks and stimuli that are explicit and embedded in a wellstructured environment	Problem Solving - 11 - Systems thinking Systems thinking I identify how parts of a system impact each other	Problem Solving - 13 - Hypothesis testing Hypothesis testing I structure ideas so that I can test them	Planning - 8 - Prioritising Prioritising I order and prioritise tasks to achieve goals	0.513296783	0.4899294972	0.2724382579
41	Level 1	Cognitive processes	understand connections between tasks and stimuli that are explicit and embedded in a wellstructured environment	Problem Solving - 11 - Systems thinking Systems thinking I identify how parts of a system impact each other	Problem Solving - 13 - Hypothesis testing Hypothesis testing I structure ideas so that I can test them	Planning - 8 - Prioritising Prioritising I order and prioritise tasks to achieve goals	0.513296783	0.4899294972	0.2724382579
42	Below Level 1	General	understand very simple static problems situated within a clearly structured environment	Problem Solving - 12 - Logical reasoning Logical reasoning I use logical reasoning to structure problems	Leadership - 10 - Facilitating discussions Facilitating discussions I structure group discussions	Problem Solving - 13 - Hypothesis testing Hypothesis testing I structure ideas so that I can test them	0.5151472688	0.4216634035	0.3964884579



