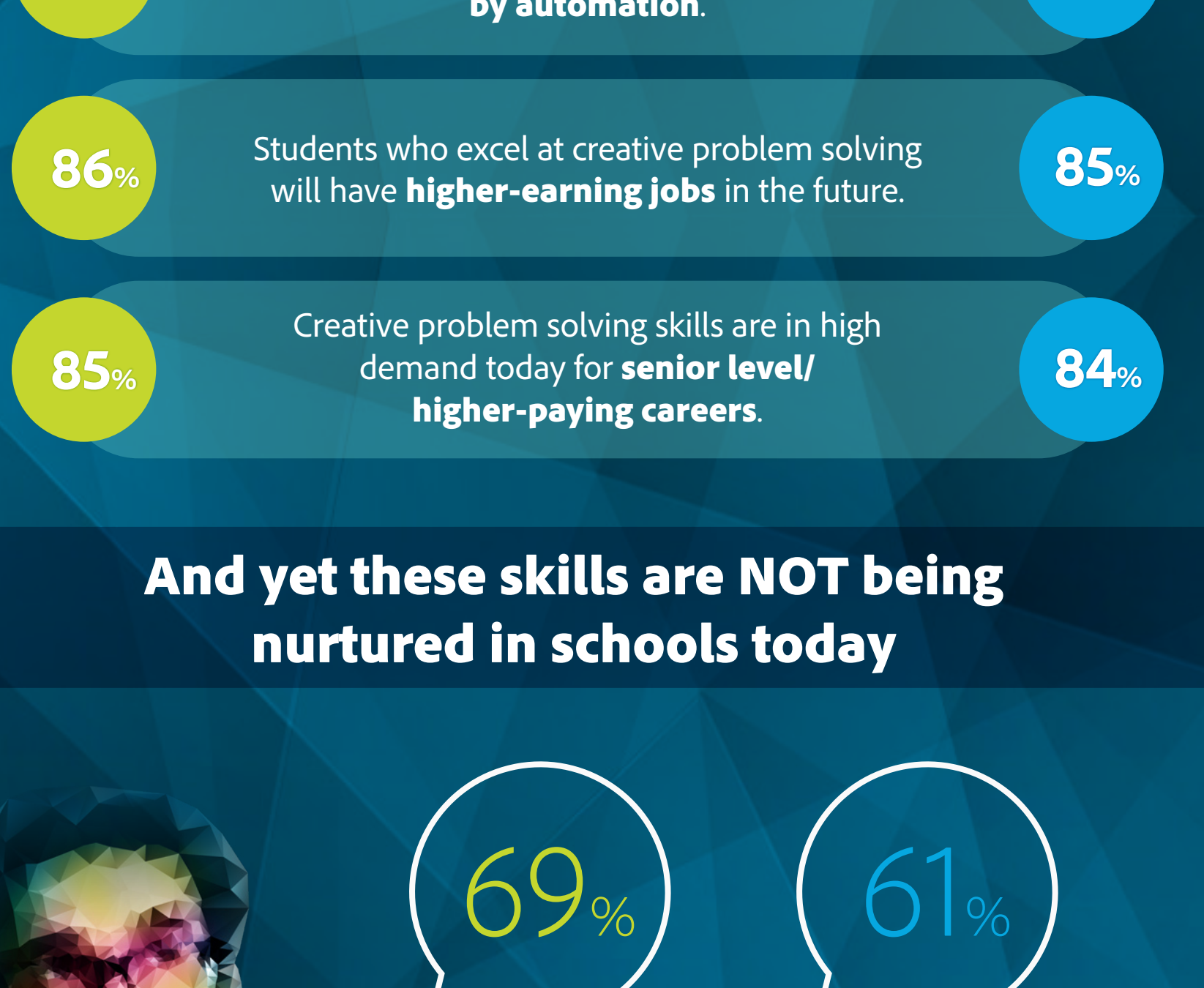# CREATIVE PROBLEM SOLVING

Essential Skills Today's Students Need for Jobs in Tomorrow's Age of Automation

Creative problem solving is the process of redefining problems and opportunities, coming up with new, innovative responses and solutions, and then taking action.
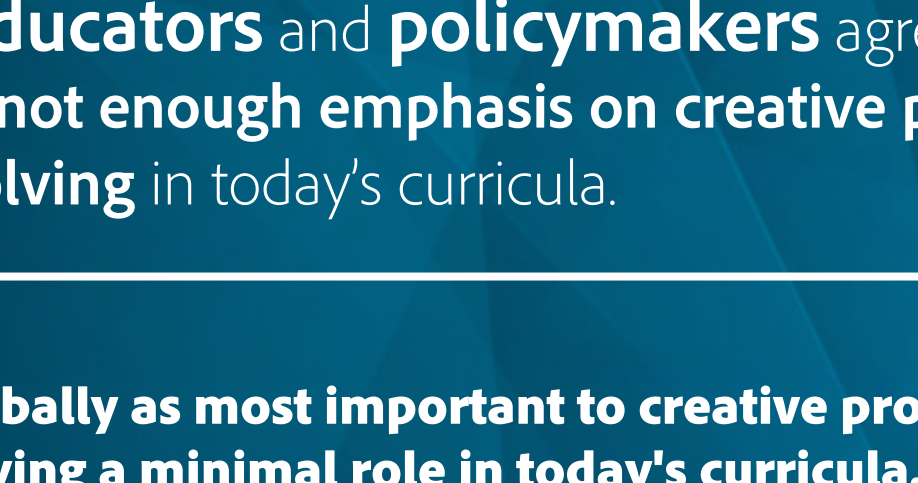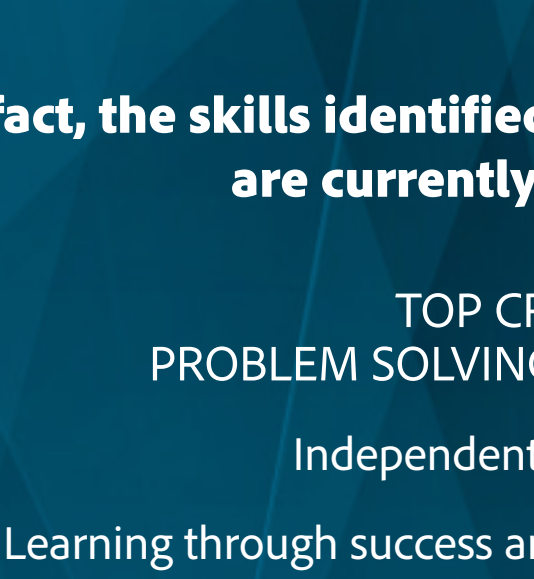
Global research shows that tomorrow's jobs will demand creative problem solving skills. We asked 1600 higher and secondary educators, and 400 policymakers and influencers around the world to tell us about how students are being prepared to be creative problem solvers. Here is what we found...

Educators and policymakers worldwide agree:

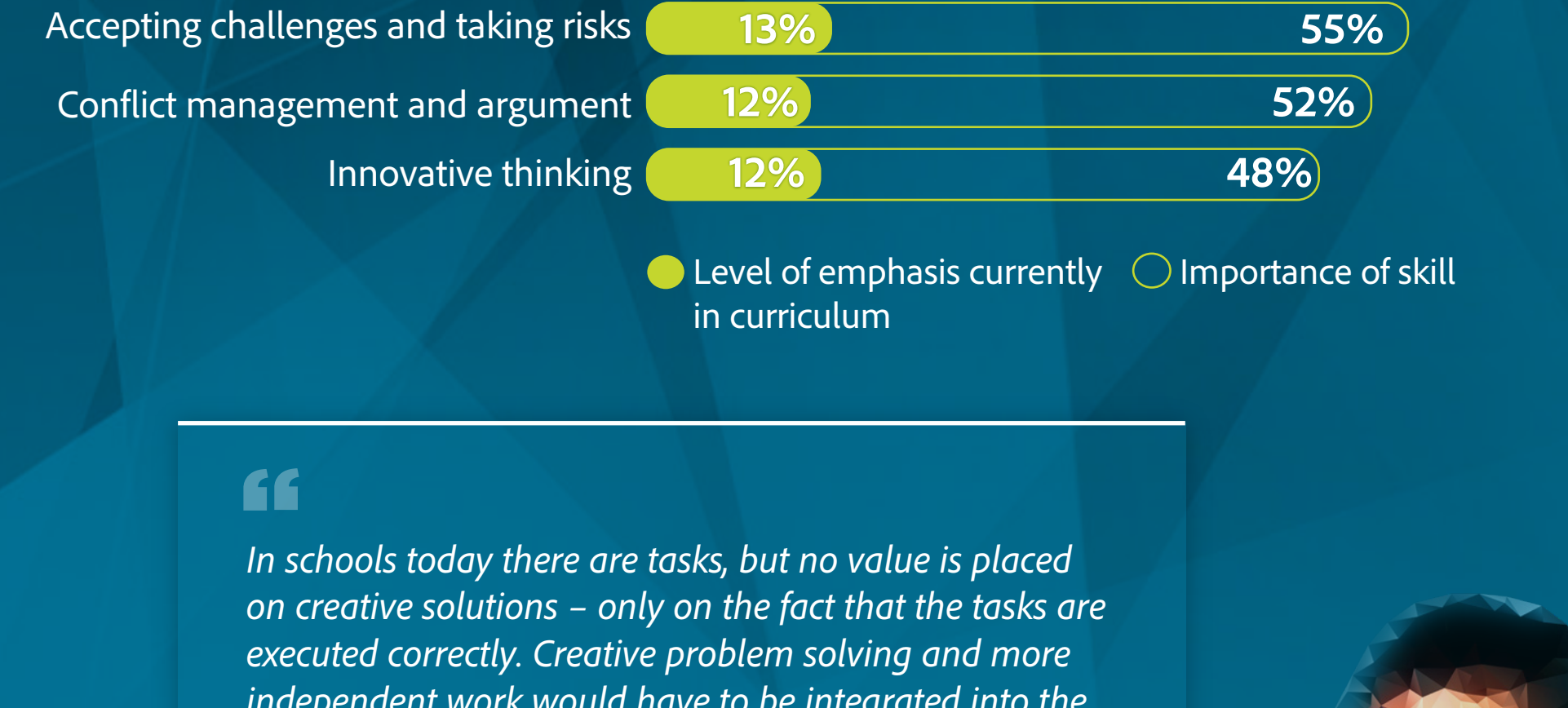### Creative problem solving is critical to future career success in an age of automation

Educators		Policymakers
97%	Creative problem solving is **important for students to learn in school**	96%
74%	Professions that require creative problem solving skills are **less likely to be impacted by automation**	76%
86%	Students who excel at creative problem solving will have **higher-earning jobs** in the future.	85%
85%	Creative problem solving skills are in high demand today for **senior level/ higher-paying careers**.	84%

And yet these skills are NOT being nurtured in schools today

69% Educators and **61%** policymakers agree that there is **not enough emphasis on creative problem solving** in today's curricula.

In fact, the skills identified globally as most important to creative problem solving are currently playing a minimal role in today's curricula.
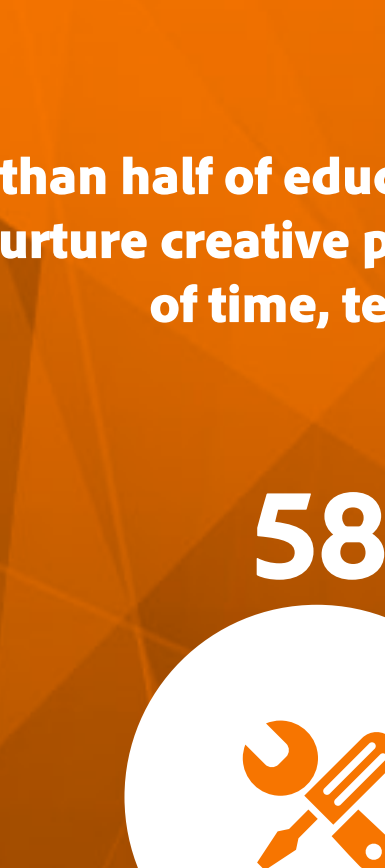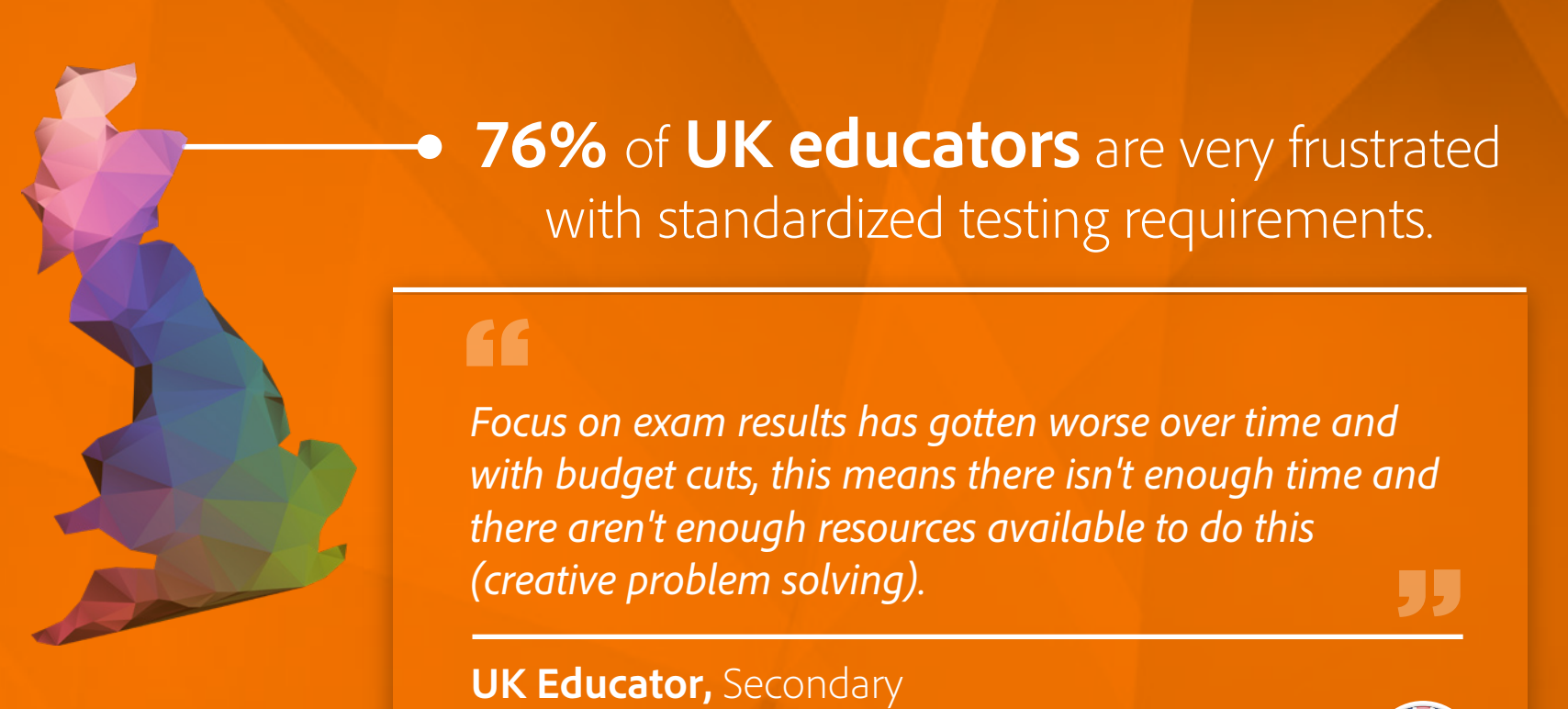
TOP CREATIVE PROBLEM SOLVING SKILLS	GLOBAL EDUCATORS	
	Level of emphasis currently in curriculum	Importance of skill in curriculum
Independent learning	23%	67%
Learning through success and failure	16%	61%
Working within diverse teams	24%	60%
Self-expression and dialogue	21%	57%
Persistence, grit & entrepreneurial spirit	14%	55%
Accepting challenges and taking risks	11%	55%
Conflict management and argument	12%	52%
Innovative thinking	12%	48%

> "In schools today there are tools, but no value is placed on creative solutions – only on the fact that the tasks are executed correctly. Creative problem solving and more independent work would have to be integrated into the curriculum for all subjects at an early stage."
>
> German Policymaker

There are many barriers — at the global level — to teaching creative problem solving in schools today

GLOBAL EDUCATORS

- 79% Lack of time to create
- 77% Lack of educator training for new software
- 73% Lack of access to software in classrooms
- 73% Lack of student access to software at home
- 72% Outdated standardized testing requirements
- 71% Lack of access to hardware in classrooms
- 70% Lack of student access to hardware at home
- 63% Lack of educator control over lessons in classrooms
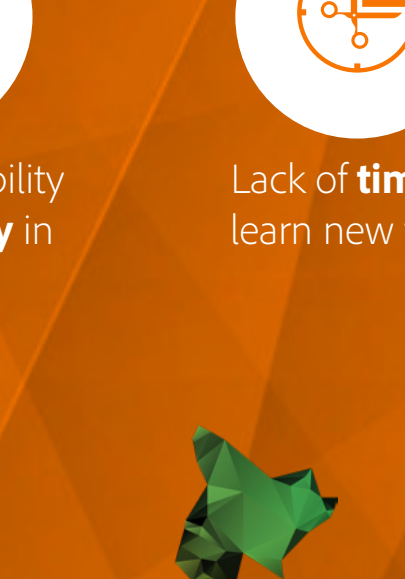
76% of UK educators are very frustrated with standardized testing requirements.

> "Focus on exam results has gotten worse over time and with budget cuts, this means there isn't enough time and there aren't enough resources available to do this (creative problem solving)."
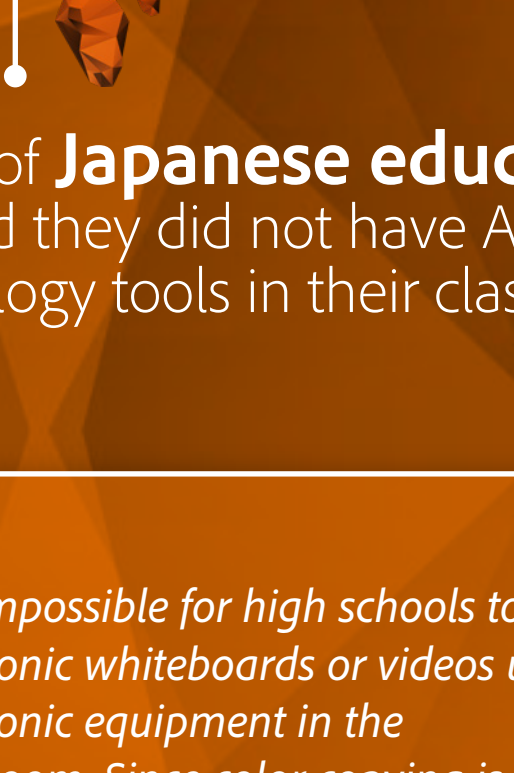>
> UK Educator, Secondary

More than half of educators don't have access to the tools and training they need to nurture creative problem solving skills. School budget restraints and a lack of time, technology and training keep teachers from getting the knowledge they need.
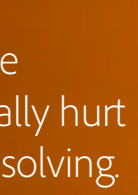
- **58%** Do not have access to all the **tools** they need to nurture creative problem solving
- **55%** Do not have access to all the **knowledge** and **training** they need to nurture creative problem solving

- **55%** School **budget restraints** prevent access
- **44%** Lack of **educator training** or personal development opportunities
- **40%** Limited availability of **technology** in classroom
- **40%** Lack of **time** to learn new tools

85% of German educators cited the need for more budget to increase emphasis on creative problem solving.

40% of Japanese educators said they did not have ANY technology tools in their classroom.

> "The budget for the school is not enough, we have the word, outdated technology (in school) and no technology at home for the students."
>
> German Educator, Secondary

> "It is impossible for high schools to use electronic whiteboards or videos using electronic equipment in the classroom. Since color copying is prohibited, visual teaching materials are always black and white."
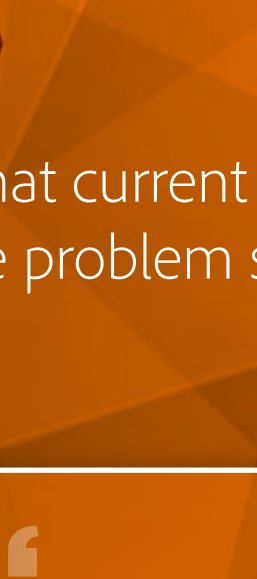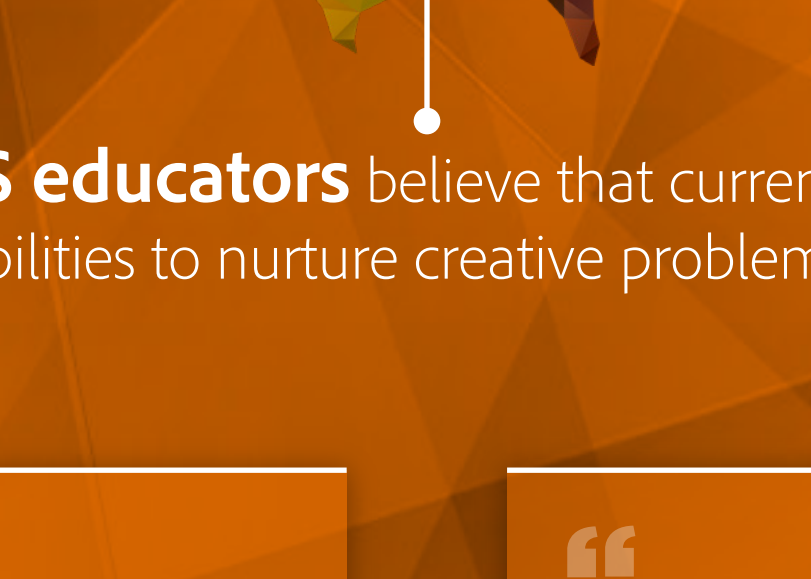>
> Japan Educator, Secondary

Today's policies aren't helping either

- **72%** Educators and **62%** policymakers believe that current national education policies actually hurt teachers' ability to nurture creative problem solving.

There is a gap in understanding the realities of integrating creative problem solving into the classroom. **Policymakers** see these skills as less difficult to integrate into today's curricula than **educators** do.
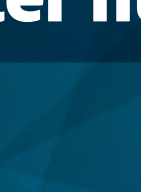
- **61%** vs **72%**

80% of US educators believe that current policies hurt their abilities to nurture creative problem solving

> "Teachers have precious little time to understand new policies and implement them effectively. We need to be given dedicated (paid) time to undertake training, not just asked to get on with it on top of already ridiculous workloads."
>
> US Educator, Secondary

> "The policies are too restrictive in what they ask teachers to teach - it is harder for us to build well-rounded students."
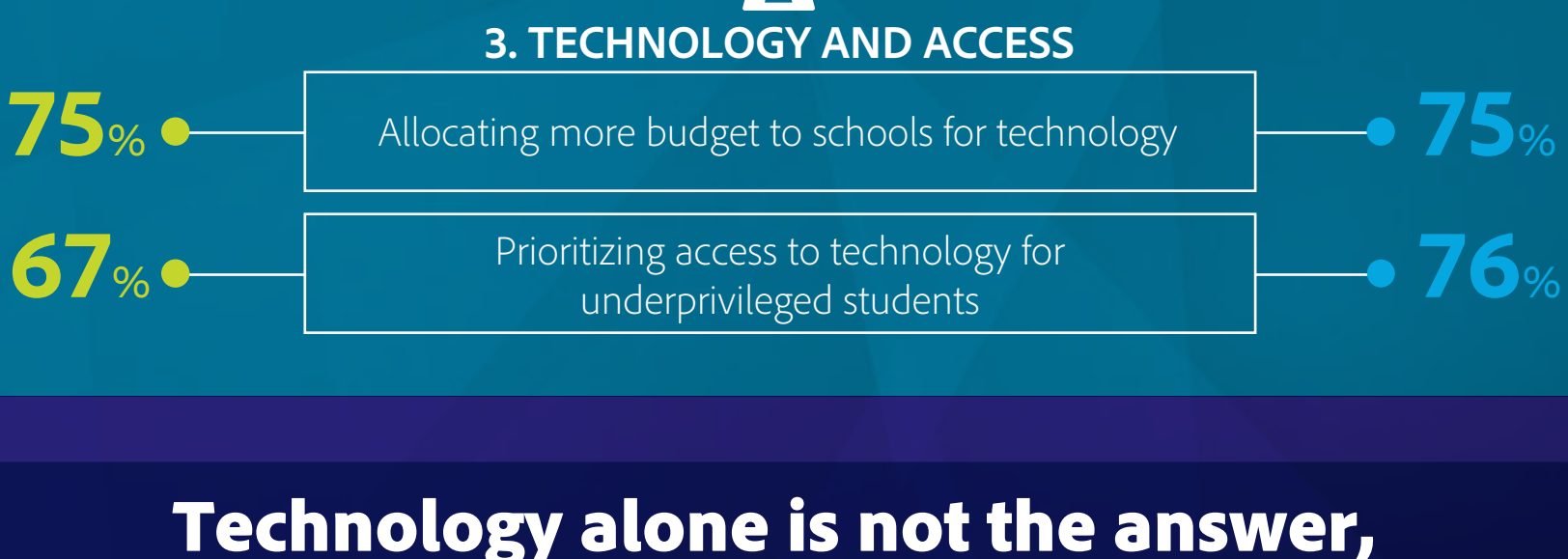>
> UK Educator, Secondary

Educators and policymakers believe it will take a variety of solutions to better nurture creative problem solving
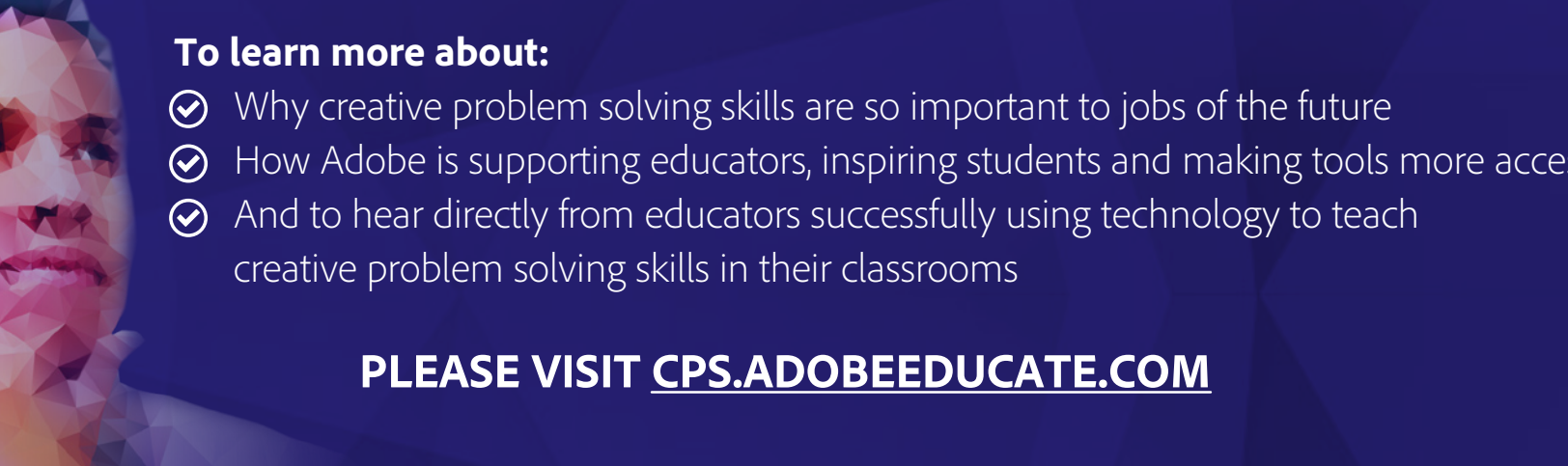
Educators		Policymakers
89%	We need to find ways to better integrate creative problem solving into today's curricula	87%
87%	We need to find ways to reform the current curricula to better nurture creative problem solving	88%

There are many ways — small and large — to bridge the skills gap:

1. TRAINING			
85%	Additional professional development for educators		85%
71%	Requiring more digital literacy courses		78%
2. CURRICULUM REFORM			
76%	Revisiting standardized testing requirements		82%
73%	Encouraging more local control of curricula rather than national standardization of curricula		77%
3. TECHNOLOGY AND ACCESS			
75%	Allocating more budget to schools for technology		75%
67%	Prioritizing access to technology for underprivileged students		76%

Technology alone is not the answer, but it plays a key role

Today's students are facing a sea change like no other, and Adobe is working with educators and students to help them develop these essential skills for entering tomorrow's workforce.

To learn more about:
- Why creative problem solving skills are so important to jobs of the future
- How Adobe is supporting educators, inspiring students and making tools more accessible
- And to hear directly from educators successfully using technology to teach creative problem solving skills in their classrooms

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