

Communicating Potential through Performance Data

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Introductions and Agenda







Dr. Matthew Kaye, School Implementation Manager

Current work projects include supporting the fidelity of implementation at Cambridge's K-8 centres and partnering with stakeholders to better understand federal and state accountability models so Cambridge can serve as a valued partner and thought leader.

Jeremy Ridgeo, Senior School Implementation Manager

As School Implementation Manager, Jeremy shaped the role to partner with new and existing schools/districts to implement the Cambridge Pathway with fidelity in respect to their school vision/mission. The team aims to seamlessly integrate the Cambridge program into their existing framework.



Timeframe	Topic
0:00-5:00	Introductions and Agenda
5:00-15:00	The Context
15:00-25:00	The Problem
25:00-50:00	Solutions
50:00-60:00	Questions



The Context





A clear path for educational success from age 3 to 19

Cambridge Early Years

Age 3+

A play-based programme, with:

- · a holistic curriculum
- engaging resources
- support to measure progress

6 curriculum areas including Personal, social and emotional development

Cambridge Primary

Age 5+

- · Clear, adaptable curriculum
- · Flexible assessment options
- Support and resources
- Insight to understand potential

10+ subjects including English, Mathematics, Science, Computing, Art & Design and Wellbeing

Cambridge Lower Secondary

Age 11+

- · Clear, adaptable curriculum
- · Flexible assessment options
- Support and resources
- Insight to predict performance

10+ subjects including English, Mathematics, Science, Computing, Art & Design and Wellbeing

Cambridge Upper Secondary

Age 14+

- · Broad, adaptable curriculum
- · Fair, valid, reliable assessment
- Support and resources
- · Insight to optimise achievement

Cambridge IGCSE™: 70+ subjects Cambridge O Level: 40+ subjects Cambridge ICE

Cambridge Advanced

Age 16+

- In-depth, adaptable curriculum
- Fair, valid, reliable assessment
- Support and resources
- Insight to predict performance

Cambridge International AS & A Level: 50+ subjects Cambridge AICE, Cambridge IPQ

Cambridge Professional Development for teachers and school leaders





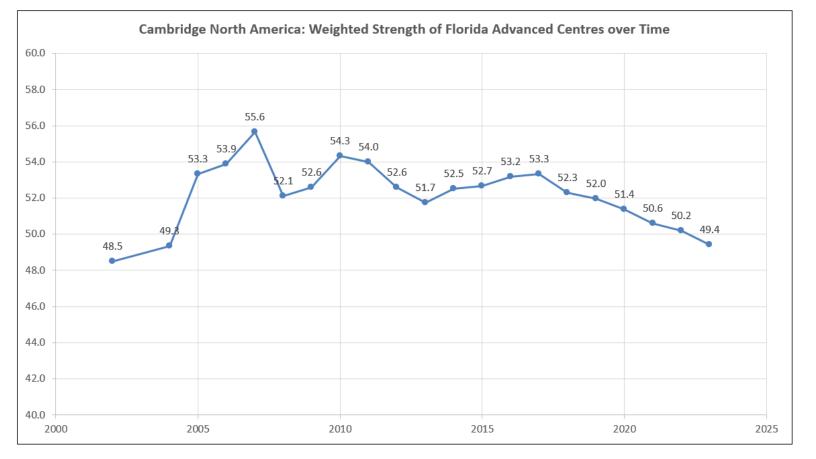
Changes in composition of Florida centres over time

- Cambridge has grown in Florida, with acute acceleration in recent years
 - Several large districts in Florida have added a substantial number of schools since 2019
 - This rate of onboarding, condensed especially within large districts, has the potential to impact the composition candidates entering into qualification exams
- Schools in Florida, like elsewhere, have a high variety of student inputs
- One of the more reliable ways to measure the academic strength/vulnerability of a school is its ELA Achievement as reported by the state



One observation from the data below is that nature of our centres is evolving in terms of the students served. Cambridge now serves a wide array of students throughout Florida and has emerged as a major program of offer across many schools in every major district.

	AVG ELA	NUMBER	WEIGHTED	
	ACH 2022	ADDED	AVG	
2002	48.5	2	48.5	
2004	51.0	1	49.3	
2005	57.3	3	53.3	
2006	55.0	3	53.9	
2007	58.8	5	55.6	
2008	35.7	3	52.1	
2009	56.5	2	52.6	
2010	65.3	3	54.3	
2011	52.3	4	54.0	
2012	48.4	9	52.6	
2013	50.4	22	51.7	
2014	55.8	13	52.5	
2015	53.8	10	52.7	
2016	58.9	7	53.2	
2017	55.1	7	53.3	
2018	40.6	8	52.3	
2019	48.7	11	52.0	
2020	47.9	19	51.4	
2021	48.1	42	50.6	
2022	46.2	18	50.2	
2023	44.9	32	49.4	



Composition Matters

What ELA Achievement will Tell Us

- It provides insight into the types of schools we are serving
- It is indicative of broad trends that may influence our results outcomes
- ELA Achievement has consistently presented a strong correlation to other academic outcomes (ex. Cambridge, AP, IB, SAT, ACT, etc.)

What ELA Achievement won't Tell Us

- It's a blunt data point; not all students at a school enter into AS/A-Level exams
- Some low-ELA schools may only enter their strong students; they will still be a small number compared to strong-ELA schools
- Since we don't track candidate data via state-level inputs, we can't examine centre-level ELA data beyond this surface level



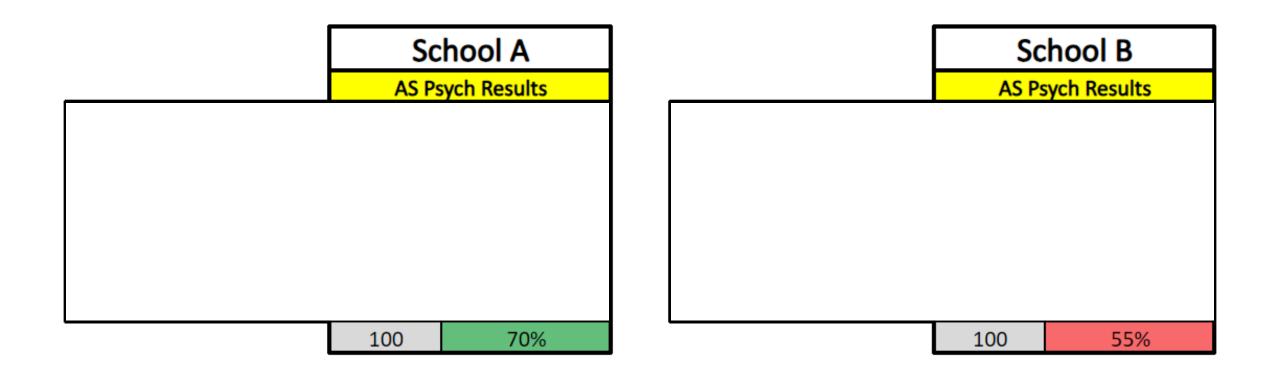
The Problem



Results matter, but composition does too

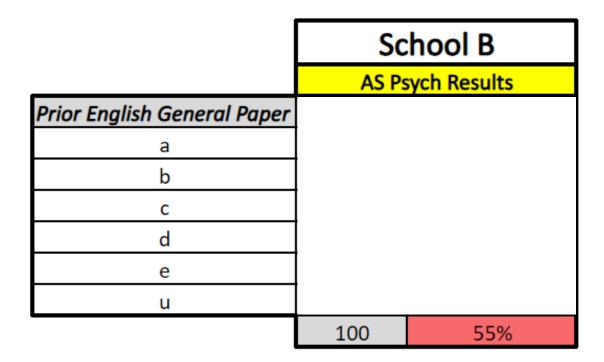
- Results on AS/A Level qualification exams are significant to our schools, their students, and the community
 - Implications for college acceptance, scholarship, advancement, etc.
 - Influence public perception of the quality of the school
 - Impact financial revenue, teacher retention, etc.
- Results are often perceived without context, often clouding performance
 - Every school, every series is different
 - There are unique contexts that aren't captured in results reporting that can tell much more of how students performed on examinations







	Sc	hool A
	AS Ps	sych Results
Prior English General Paper		
a		
b		
С		
d		
e		
u		
	100	70%





	School A		
	AS Psych Results		
Prior English General Paper	Group a-e Ra		
a		91%	
b		84%	
С		75%	
d		57%	
е	43%		
u		35%	
	100	70%	

	School B		
	AS Psych Results		
Prior English General Paper	Group a-e Rate		
a		91%	
b	84%		
С	75% 57% 43%		
d			
е			
u		35%	
	100	55%	



	School A				
	AS Psych Results				
Prior English General Paper	# in Group Group a-e Rate				
а	16	91%			
b	22	84%			
С	25	75%			
d	17	57%			
е	13	43%			
u	7	35%			
	100	70%			

	School B			
	AS Psych Results			
Prior English General Paper	# in Group Group a-e Rate			
a	4	91%		
b	9	84%		
С	14	75%		
d	26	57%		
е	22	43%		
u	25	35%		
	100	55%		



Effects of Compositional Differences (Simpson's Paradox)

School B

	School A				
	AS Psych Results				
Prior English General Paper	# in Group Group a-e Rate				
а	16	91%			
b	22	84%			
С	25 75%				
d	17	57%			
e	13	43%			
u	7 35%				
	100	70%			

•	School A and School B both have
	100 students with a prior-year
	English General Paper result
	entered into AS-Psych.

- Each stratified group performs the same at both schools.
- The composition of the 100 students at each school, however, influences the outcome so that School A has a 15% higher rate of e-or-higher.

	30110013				
	AS Psych Results				
Prior English General Paper	# in Group Group a-e Rat				
а	4	91%			
Ь	9	84%			
С	14	75%			
d	26	57%			
e	22	43%			
u	25	35%			
	100	55%			

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Solutions



Three approaches as a solution right now

- 1. Analysing associations between entries and results
- 2. Contextualising results using explanatory analysis
- 3. Utilising longitudinal data over multiple assessments



Qualification	AS Level	√√						
Assessment	8021 - English General	Paper 🖓						
Row Labels						Growth	Results F	uctuation
Row Labels	Sum of Total Entries -	Sample	Sum of %E Higher -	Sample	Sum of %E Higher - USA	s Enroll %CH	s a-e %CH	USA a-e %CH
June 2021	1913		90.6		83.6			
June 2022	2158		87.1		71.2	13%	-4%	-15%
June 2023	2639		90.9		75.5	22%	4%	6%
Grand Total	6710							

Note: Ideally there is growth in entries AND positive results fluctuation. This is when something is going really well.

Relatively proportional inverse relationships are normal.

Double negatives are bad and need to be inspected immediately.



Growth		Results Fluctuation			
S Enroll %CH	S	a-e %CH	USA a-e %CH		
13%		-4%	-15%		
22%		4%	6%		

Note: Ideally there is growth in entries AND positive results fluctuation. This is when something is going really well. Relatively proportional inverse relationships are normal. Double negatives are bad and need to be inspected immediately.

- In this series, 8021 English General Paper, the district enrolled considerably more students than the prior year and enjoyed greater results
- This should be considered a successful series for the sample district



Qualification	ion AS Level							
Assessment	nt 9699 - Sociology							
Row Labels						Growth	Results Fl	uctuation
Row Labels	∨ Sum of Total Entries -	Sample	Sum of %E Higher -	Sample	Sum of %E Higher - USA	s Enroll %CH	s a-e %CH	USA a-e %CH
June 2021	267		83.5		60.1			
June 2022	182		47.3		57.9	-32%	-43%	-4%
June 2023	338		52.4		47.6	86%	11%	-18%
Grand Total	787							

Note: Ideally there is growth in entries AND positive results fluctuation. This is when something is going really well. Relatively proportional inverse relationships are normal. Double negatives are bad and need to be inspected immediately.



	Growth	Results Fluctuation				
S	Enroll %CH	s a-e %CH		USA a-e %CH		
	-32%		-43%	-4%		
86%			11%	-18%		

Note: Ideally there is growth in entries AND positive results fluctuation. This is when something is going really well.
Relatively proportional inverse relationships are normal.
Double negatives are bad and need to be inspected immediately.

- In this series, 9699 Sociology, the district enrolled considerably more students than the prior year and enjoyed greater pass rates, exceeding the national average by far
- This should be considered a very successful series for this sample district



0 1:6: .:								
Qualification	AS Level	_₹						
Assessment	9693 - Marine Science	7						
Row Labels						Growth	Results Fl	uctuation
Row Labels	Sum of Total Entries -	Sample	Sum of %E Higher -	Sample	Sum of %E Higher - USA	S Enroll %CH	s a-e %CH	USA a-e %CH
June 2021	1151		80.6		77.5			
June 2022	1105		61.4		67.6	-4%	-24%	-13%
June 2023	965		48.6		57.3	-13%	-21%	-15%
Grand Total	3221							

Note: Ideally there is growth in entries AND positive results fluctuation. This is when something is going really well. Relatively proportional inverse relationships are normal. Double negatives are bad and need to be inspected immediately.



	Growth	Results Fluctuation				
S	Enroll %CH	S	a-e %CH	USA a-e %CH		
-4%		-24%		-13%		
-13%			-21%	-15%		

 In this series, 9693 Marine Science, the district enrolled fewer students than the prior year and recorded lower results, a decline steeper than the national average

Note: Ideally there is growth in entries AND positive results fluctuation. This is when something is going really well. Relatively proportional inverse relationships are normal. Double negatives are bad and need to be inspected immediately.

 This should warrant further investigation with this sample district



Qualification	AS Level	\T						
Assessment	9694 - Thinking Skills	_T						
Row Labels			_			Growth	Results Fl	uctuation
Row Labels	∨ Sum of Total Entries -	Sample	Sum of %E Higher -	Sample	Sum of %E Higher - USA	S Enroll %CH	s a-e %CH	USA a-e %CH
June 2021	674		69.1		83.2			
June 2022	605		73.9		72.1	-10%	7%	-13%
June 2023	724		68.6		66.7	20%	-7%	-7%
Grand Total	2003							

Note: Ideally there is growth in entries AND positive results fluctuation. This is when something is going really well. Relatively proportional inverse relationships are normal. Double negatives are bad and need to be inspected immediately.



	Growth		uctuation		
S	Enroll %CH	S	a-e %CH	USA a-e %CH	
-10%		7%		-13%	
20%		-7%		-7%	

 In this series, 9694 Thinking Skills, the district enrolled considerably more students than the prior series and recorded a decline in results on par with the national average

Note: Ideally there is growth in entries AND positive results fluctuation. This is when something is going really well.
Relatively proportional inverse relationships are normal.
Double negatives are bad and need to be inspected immediately.

 This should be considered a successful series for this sample district



2. Explanatory Analysis – Establishing Context

- Using English-General Paper as an Explanatory Variable
 - English-General Paper can be used as an appropriate explanatory variable for our region
 - EGP is accessible and wide-spread; allows for stratification
 - Can be used to contextualise response variables (ex. AS-Psychology, AS-History, ADIP, etc.)

Limitations

- By only selecting students who also have an EGP score, the sample size is reduced
- EGP has also been subject to grade re-norming, making year-over-year comparisons less reliable



2. Explanatory Analysis – Establishing Context

UCLES Combined	School	EGP Year	subject	EGP Grade	Subject	Year	Grade
Student ID	Sample School XZY	2021/2022	8021-ENGLISH GENERAL PAPER	a7	9990-PSYCHOLOGY	2022/2023	a7
Student ID	Sample School XZY	2021/2022	8021-ENGLISH GENERAL PAPER	a7	9990-PSYCHOLOGY	2022/2023	a7
Student ID	Sample School XZY	2021/2022	8021-ENGLISH GENERAL PAPER	a7	9990-PSYCHOLOGY	2022/2023	a7
Student ID	Sample School XZY	2021/2022	8021-ENGLISH GENERAL PAPER	a7	9990-PSYCHOLOGY	2022/2023	a7
Student ID	Sample School XZY	2021/2022	8021-ENGLISH GENERAL PAPER	a7	9990-PSYCHOLOGY	2022/2023	a7
Student ID	Sample School XZY	2021/2022	8021-ENGLISH GENERAL PAPER	a7	9990-PSYCHOLOGY	2022/2023	a7
Student ID	Sample School XZY	2021/2022	8021-ENGLISH GENERAL PAPER	a7	9990-PSYCHOLOGY	2022/2023	a8
Student ID	Sample School XZY	2021/2022	8021-ENGLISH GENERAL PAPER	a7	9990-PSYCHOLOGY	2022/2023	a8
Student ID	Sample School XZY	2021/2022	8021-ENGLISH GENERAL PAPER	a7	9990-PSYCHOLOGY	2022/2023	b9
Student ID	Sample School XZY	2021/2022	8021-ENGLISH GENERAL PAPER	a7	9990-PSYCHOLOGY	2022/2023	b9
Student ID	Sample School XZY	2021/2022	8021-ENGLISH GENERAL PAPER	a7	9990-PSYCHOLOGY	2022/2023	b9
Student ID	Sample School XZY	2021/2022	8021-ENGLISH GENERAL PAPER	a7	9990-PSYCHOLOGY	2022/2023	b9

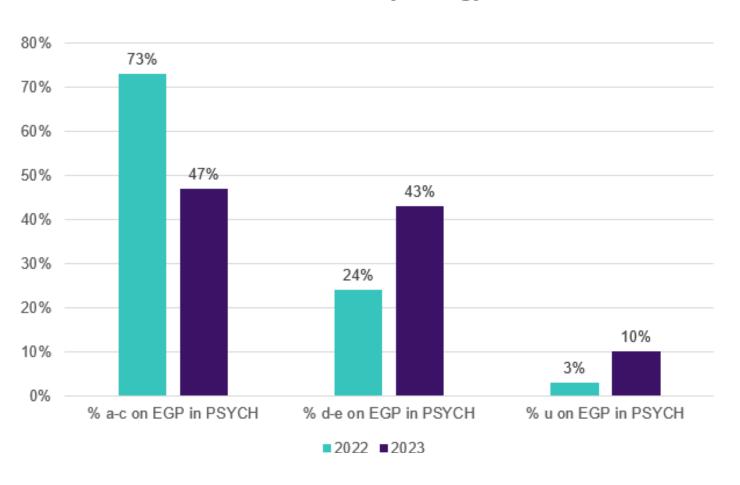


AS-Level Psychology	2022	2023
Percentage a-c on EGP in PSYCH	73%	47%
Pass Rate of a-c on EGP in PSYCH	51%	49%
Percentage d-e on EGP in PSYCH	24%	43%
Pass Rate of d-e on EGP in PSYCH	25%	16%
Percentage U on EGP in PSYCH	3%	10%
Pass Rate of U on EGP in PSYCH	0%*	16%
Total District % a-e	42%	27%

^{*}Indicates small sample size

- How were the results of this district different from one year to the next?
- How did performance of this district vary from one year to the next?

AS-Level Psychology



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AS-Level English Language

AS-Level English Language	2022	2023
Percentage a-c on EGP in ENG LANG	70%	49%
Pass Rate of a-c on EGP in ENG LANG	81%	81%
Percentage d-e on EGP in ENG LANG	26%	42%
Pass Rate of d-e on EGP in ENG LANG	51%	44%
Percentage U on EGP in ENG LANG	3%	9%
Pass Rate of U on EGP in ENG LANG	33%*	18%
Total District % a-e	71%	53%

^{*}Indicates small sample size

- How were the results of this district different from one year to the next?
- How did performance of this district vary from one year to the next?



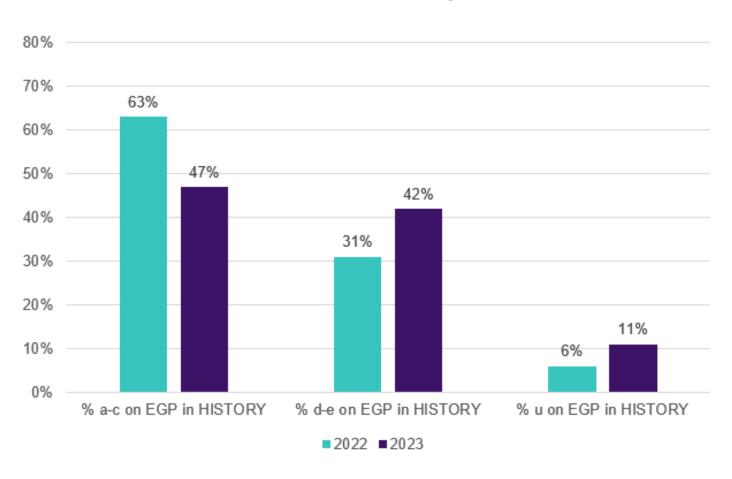


AS-Level History^	2022	2023
Percentage a-c on EGP in HISTORY	63%	47%
Pass Rate of a-c on EGP in HISTORY	66%	55%
Percentage d-e on EGP in HISTORY	31%	42%
Pass Rate of d-e on EGP in HISTORY	40%	23%
Percentage U on EGP in HISTORY	6%	11%
Pass Rate of U on EGP in HISTORY	4%*	7%
Total District % a-e	54%	33%

^{*}Indicates small sample size

- How were the results of this district different from one year to the next?
- How did performance of this district vary from one year to the next?

AS-Level History



[^]Blended Options



2. Explanatory Analysis – Establishing Context

Findings

- In each syllabi analysed, the composition of the cohort that took the assessment changed substantially between 2022 and 2023
- 2023 performance compared to 2022 levels yielded:
 - A remarkable consistency among strong students (those who previously scored an a-c on EGP); either held or barely dropped
 - A moderate decline in performance among academically weaker students (those who previously scored a d-e or u on EGP) – consistent with messaging about adjustments in grading standards
 - History was an outlier across the board in that the trends above were more amplified across all groups



2. Explanatory Analysis – Exploring Potential

Relevancy

- Performance analysis contextualises results, providing more clarity on results
- Performance data can be used as a concept leader in conversations; for example:
 - "Over 90% of students who earned a-c on EGP also earned a-e on AS-History"
 - "There are 61 students who earned a-c on EGP not enrolled in AS-History"



Of students who took EGP **and** AS-History at School X:

- Over 90% of students who earned an a-c on EGP also earned an a-e on AS-History
 - There are 61 students who earned an a-c on EGP not enrolled in AS-History
- Over 75% of students who earned d-e on EGP also earned a-e on AS-History
 - there are 72 students who earned d-e on EGP not enrolled in AS-History

Count of Candidate #	Column Labels									
Row Labels	22 HIST a^	22 HIST b^	22 HIST c^	22 HIST d^	22 HIST e^	22 HIST U	(blank)	Grand Total	%а-с	%а-е
21 EGP a^	1		3			1	11	16	80%	80%
21 EGP b^	2	6	2	4	2		17	33	63%	100%
21 EGP c^	2	1	5	8	7	3	33	59	31%	88%
21 EGP d^		1	6	10	7	6	39	69	23%	80%
21 EGP e^		1	2	2	2	4	33	44	27%	64%
21 EGP U		1		2	2	3	74	82	13%	63%
21 EGP X				1	1		23	25	0%	100%
Grand Total	5	10	18	27	21	17	230	328	34%	83%

Scored a-e

Scored u

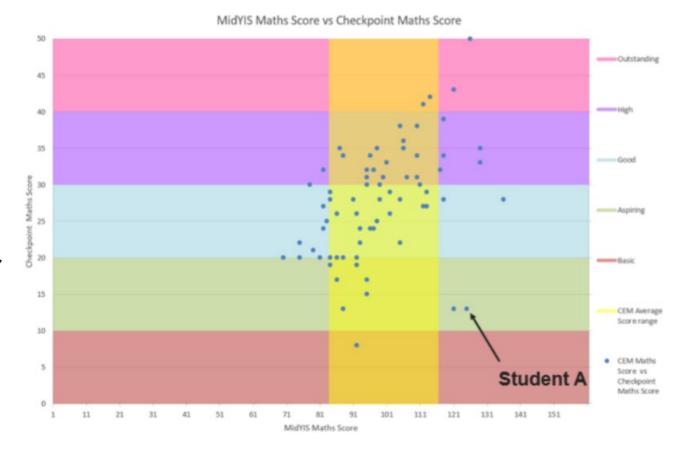
DNP - Opportunity



3. Utilising longitudinal data over multiple assessments

Intersecting CEM and Checkpoints

- Using two validated assessments, can we identify areas where "potential" and "attainment" are/are not aligned?
- What can data such as these do for school-based decisions?





Any questions?



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Get in touch!

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