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Supplementary Materials for

Infants tailor their attention to maximize learning

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The PDF file includes:

Tables S1 to S5
Legend for movie S1

Other Supplementary Material for this manuscript includes the following:

(available at advances.sciencemag.org/cgi/content/full/6/39/eabb5053/DC1)

Movie S1

Table S1.

Table 1: Model comparison

Model	AIC	ΔAIC	BIC	ΔBIC
D_{KL}, I, H, Time	1,251	0	1,389	0
D_{KL}, I, Time	1,263	12	1,406	17
D_{KL}, H, Time	1,265	13	1,443	19
D_{KL}, I, H, Time (no smoothing)	1,269	17	1,402	13
I, H, Time	1,279	27	1,533	144
D_{KL}, Time	1,281	30	1,492	103
H, Time	1,283	32	1,517	128
I, Time	1,286	34	1,507	118
Time	1,286	34	1,504	115
D_{KL}, I, H	1,349	97	1,419	30
D_{KL}, I	1,357	106	1,429	40
D_{KL}, H	1,365	114	1,429	40
D_{KL}	1,389	138	1,432	43
I, H	1,464	212	1,538	149
I	1,466	215	1,541	152
H	1,476	225	1,517	128

I = Surprise, H = Unpredictability, D_{KL} = Learning Progress. Time always includes two independent variables: sequence-wise time and task-wise time.

Table S2.

Table 2: Smoothing Coefficients

	χ^2	edf	p-values
Surprise	21.87	1	<0.001
Predictability	19.38	3	<0.001
Learning Progress	48.87	4	<0.001
Time (sequence-wise)	46.68	7	<0.001
Time (task-wise)	39.35	4	<0.001

Wald Chi-squared test for every smoothing coefficient, expected degrees of freedom (edf) and significance values.

Table S3.

Table 3: Beta Coefficients

	β coeff.	Std. Error	p-values	$e^{|\beta|}$
Surprise	0.89	0.17	<0.001	2.44
Predictability	0.24	0.05	<0.001	1.27
Learning Progress	-1.95	0.36	<0.001	7.02

Beta coefficients with the relative standard errors, significance values and effect sizes.

Table S4.

Table 4: Saccadic Latencies

	β coeff.	Std. Error	t-value	p-values
Surprise	0.08	0.03	2.70	0.006
Predictability	0.16	0.03	4.57	<0.001
Learning Progress	-0.002	0.03	-0.07	0.94
Time	0.001	<0.001	1.44	0.15

Results from the generalized linear model with logistic distribution of saccadic latencies.

Table S5.

Table 5: Looking Time

	β coeff.	Std. Error	t-value	p-values
Surprise	-0.04	0.02	-1.82	0.069
Predictability	-0.04	0.03	-1.48	0.139
Learning Progress	0.06	0.03	2.42	0.016
Time	-0.01	<0.001	-10.23	<0.001
Saccadic Latencies	-0.63	0.02	-37.20	<0.001

Results from the generalized linear model with logistic distribution of looking time to the target.

Movie S1.

An example sequence as it was presented to infants.