Part 1: Task Analysis The Steps/Behavior, the Natural Cue and Natural Consequences

Paula Gumpman, Georgia Department of Education The Basics – March 17, 2022



A Task Analysis is Systematic Instruction

- •A student's instructional program is made up of sessions, and within those sessions are instructional trials
- •All trials of systematic instruction are made up of three components.
 - •Antecedent Natural Cue
 - •Behavior Observable(we know when it starts and when it ends)
 - •Consequence Natural Consequence



Parts of a Task Analysis 1

- Step/Behavior this refers to the steps of the task analysis of the activity or skill being taught. A task analysis is the sequential breakdown of the task or activity into its component steps.
- Natural Cue this refers to the naturally occurring stimuli that elicit the desired activity or skill. For example, the alarm clock ringing is the natural cue for many people to get out of bed and get ready to go to school or work.



Parts of a Task Analysis 2

•Natural Consequences - are the events occurring naturally after the student's performance or attempted performance of the activity or skill. For example, eating a candy bar is the natural consequence for using a vending machine correctly. A door failing to open is the natural consequence for pushing the door to open when it is supposed to be pulled to open.











Discussion

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Task Analysis – Step/Behavior

- Behavior The target behavior is the one the educator wants the student to learn and that is why it is targeted for instruction. The behavior or response follows an antecedent or stimulus. When recording the responses of learners, it is important that behaviors be both **observable** and **measurable**.
- •Step/Behavior this refers to the steps of the task analysis of the activity or skill being taught. A task analysis is the sequential breakdown of the task or activity into its component steps.







Discussion

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Parts of a Task Analysis

- Teaching Strategy
 - Teaching Approach
 - Trial and Error(be sure to note the error correction procedure)
 - Standard Error Correction Procedure
 - Repeated Practice
 - System of Least Prompts (verbal prompt, gestural prompt, model prompt, physical prompt)

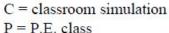
- Errorless Learning(be sure to note the specific prompt/fade procedure)
 - Constant time delay
 - Progressive time delay
 - Decreasing prompt hierarchy
 - Fading of Multiple prompts and
- Chaining Strategy
 - Forward Chaining
 - Backward Chaining
 - Total Task Presentation



Task Analysis Data Sheet (TADS)

The task analysis data sheet (TADS) is the data sheet that is used most frequently by teachers to monitor student progress toward IEP goals that are activity-based tasks broken into smaller steps. This could be a permanent record not only of the student's progress toward goals but also the teacher's attempt(s) at addressing the IEP goals.

Goal	Given morning routine, end of work, & end of PE cla	ss, Dominick will		Data		et response	
	independently put on a sweatshirt, 3 out of 4 consecuti	ve opportunities per	location.			rect response	
						pted response	
					Circle Tota	al Number Step	ps Correct
Natu	ral Cue(s): <u>T-shirt on, cold</u>	Natural Co	nsequences:	(not) warm er	nough		
step	Step/Behavior						
						, 	
10	Adjust collar	XXXXXX	10 10 10 10 10	XXXXXX	10 10 10 10	10 10 10 10 10	10 10 10 10 1
9	Pull waistband down	XXXXX	\$9 X \$\$	XAAAA	\$\$\$\$99	88888	\$ 9 \$ 8 8
8	Adjust sleeves	XXXXX	X 8 X X X	XBBBB	8889888	88888 8	88888
7	Put non-dominant hand in sleeve	XXXXX	X7XXX	XPPPP	PPP77	PPZZZ	77777
6	Put dominant hand in sleeve	XXXXX	X 6 X X X	XPPPP	ppp 66	PPXXX	X 6.000
5	Open shirt, put head through neckhole	XXXXXX	85XXX	XBBBB	BBB 5 5	PPPP	9 5 PP B
4	Grab waistband with dominant hand, then grab w/ other hand	XXXXX	X 4 X X X	XPPPP	P B B 4 4	• 🖗 🖗 🗭 🖗 •	P 4 PPA
3	Grasp shoulder & unfold so back of shirt is facing student	XXXXX	3 X 3 8	XBABB	PP 3 3	PPPPP	P 3 PPP
2	Take out shirt	XXXX	22011	2 h h h h	11222	11111	12111
1	Open drawer	XXXX	XIXXX	XXXXX	XXX11	XXXXXX	XIXXX
		0 0	00000	00000	00000	00000	00000
	Codes: Location	c p w p c	w wpc	wpwpc	w p w	wpwpc	wpwp
		11/4 11/5 11/6 11/7 11/8	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	11/ 11/ 11/ 11/ 11/	11/ 11/ 11/ 11/ 11/ 25 26 27 28 29	12/2 12/3 12/4 12/5 12/6	12/9 12/10 12/11 12/ 12



W = after work



Goal	_Given morning routine, end of work, & end of PE class, Dominick will					Data: / = correct response					
	independently put on a sweatshirt. 3 out of 4 consecuti	ive opportunities per location.					orrect response				
							mpted response				
							tal Number Ste	eps Correct			
	ral Cue(s): <u>T-shirt on, cold</u>	Natu	ral Co	onsequences:	(not) warm	<u>enough</u>		I			
step	Step/Behavior										
		Baseline Assessment	Tria & Error/Standard Error Correction Whole Task Chaining	Sick	Tria & Error/Standard Error Correction GlobalChaining Steps 1,2,9,10	✓ Thanksgiving	Tria & Error/Standard Error Correction GlobalChaining Steps 1,2,6,7,9,10	Gave opportuiny (No data)			
10	Adjust collar	XXX	XX	10 10 10 10 10	XXXXX	1 10 10 10 10 10	10 10 10 10 10	10 10 10 10 10			
9	Pull waistband down	XXX	XX	\$ 9 × 8 \$	XAAAA	\$ \$ \$ 9 9 9	\$\$\$\$\$	199899			
8	Adjust sleeves	XXX	XX	****	XBBBB	8888	88888	888888			
7	Put non-dominant hand in sleeve	XXX	XX	X7XXX	XPPPP	PPP77	PPIZZ	77777			
6	Put dominant hand in sleeve	XXX	××	X 6 X X X	Xpppp	ppp 66	PPXX	X 6.668			
5	Open shirt, put head through neckhole	XXX	XX	85XXX	XBBBB	BBB 5 5	PPPP	9 5 PP P			
4	Grab waistband with dominant hand, then grab w/ other hand	XXX	XX	X 4 X X X	XPPPP	R	PPP	P4PPP			
3	Grasp shoulder & unfold so back of shirt is facing student	XXX	××	8.3 X 38	XPPBB	PP 33	PPPPP	P3PPP			
2	Take out shirt	XXX	X	22011	21111	11222	1.h.h.h.h.h.h.h.h.h.h.h.h.h.h.h.h.h.h.h	22222			
1	Open drawer		DX	XIXXX	XXXXXX	X 1 X 1 1	XXXXX	XIXXX			
			0 0	00000	00000	00000	00000	00000			
-	Codes: Location	c p w	p c	w wpc	wpwp	c w p w	wpwpc	wpwpo			
		11/4 11/5 11/6	11/7 11/8	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		1/ 11/ 11/ 11/ 11/ 22 25 26 27 28 29		12/9 12/10 12/11 12/ 12			

C = classroom simulation

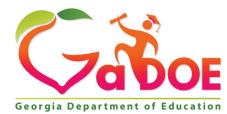
P = P.E. class

W = after work



Part 2: Task Analysis Chaining Strategies and Trial and Error or Errorless Learning

Paula Gumpman, Georgia Department of Education



A Task Analysis is Systematic Instruction (Review)

- •A student's instructional program is made up of sessions, and within those sessions are instructional trials
- •All trials of systematic instruction are made up of three components.
 - •Antecedent Natural Cue
 - •Behavior Observable(we know when it starts and when it ends)
 - •Consequence Natural Consequence



Parts of a Task Analysis (Review)

•Natural Consequences - are the events occurring naturally after the student's performance or attempted performance of the activity or skill. For example, eating a candy bar is the natural consequence for using a vending machine correctly. A door failing to open is the natural consequence for pushing the door to open when it is supposed to be pulled to open.



Task Analysis – Step/Behavior (Review)

- Behavior The target behavior is the one the educator wants the student to learn and that is why it is targeted for instruction. The behavior or response follows an antecedent or stimulus. When recording the responses of learners, it is important that behaviors be both **observable** and **measurable**.
- •Step/Behavior this refers to the steps of the task analysis of the activity or skill being taught. A task analysis is the sequential breakdown of the task or activity into its component steps.



Task Analysis Data Sheet (TADS)

• Students Name and the Goal.

Name	e: _Dominick										
Goal:	Goal: Given morning routine, end of work, & end of PE class, Dominick will					Data: / = correct response					
	independently put on a sweatshirt, 3 out of 4 consecutive opportunities per location.					X = incorrect response					
					P = prompted response						
						Circle To	tal Number St	eps Correct			
Natural Cue(s): <u>T-shirt on, cold</u> Natural C			ral Co	nsequences: _	(not) warm e	nough	_				
step	Step/Behavior										

• The TADS should include the Natural Cue and well as the Naturals Consequence



TADS – With Steps

• As we discussed during our last session, The task must be broken down into steps

- Watch someone do the task (a person than can independently complete the task, video tape yourself)
- Right down each step

			· ·	1 I	1	1 I I	1 1
10	Adjust collar	XXXXXX	X0 10 X0 X0 X0	XXXXX	X 10 10 10	10 10 10 10 10	10 10 10 10 10
9	Pull waistband down	XXXXX	\$9 X \$\$	X \$ \$ \$ 8 \$	<i>\$\$</i>	48888	\$9\$\$ \$
8	Adjust sleeves	****	<u> </u>	X 8 8 9 8	889988	8 8 8 8 8	88888
7	Put non-dominant hand in sleeve	XXXXX	X7XXX	XPPPP	PPP77	PR 777	77777
6	Put dominant hand in sleeve	****	X6XXX	χρρόρ	ρρ ίρο 6 6	ppX XA	X 6 8 5 5 5
5	Open shirt, put head through neckhole	XXXXX	25XXX	XPPPP	88855	P B 200 P	9 9 9 9 5 9 P P
4	Grab waistband with dominant hand, then grab w/ other hand	XXXXX	X 4XXX	XABBB	P.00-4-4-	• 🗭 🏹 🖗 🖗 🖗	pi 4 pi pi pi
3	Grasp shoulder & unfold so back of shirt is facing student	XXXXX	X 3 X X X	XPPBB	📬 👂 🖻 3 3	99999	ρ3ρρρ
2	Take out shirt	****	220222	21111	2222	22222	222222
1	Open drawer	XXXX / X	X1YXX	XXXXX	XXX11	<u> </u>	X1XXX
		0 0	00000	00000	00000	00000	00000
	Codes: Location	c p w p c	w wpc	w p w p c	wpw	w p w p c	wpwpc
-	-	11/4 11/5 11/6 11/7 11/8	11/ 11/ 11/ 11/ 11/ 11/ 12/ 13/ 14/ 15	11/ 11/ 11/ 11/ 11/ 18 19 20 21 22	11/ 11/ 11/ 11/ 11/ 25 26 27 28 29		129 12/1012/1112/ 12/

C = classroom simulation

P = P.E. class

W = after work

The LRE for LIFE Project

Steps for Building Instructional Program Packets: Selected Activity Analyses (Unabbreviated Version)





Teaching Strategy

- Chaining Strategy
- Trial and Error
- Errorless Learning

When choosing the best learning method for a student, the nature of the task should be considered.



Chaining Strategies -

- •Forward Chaining (each step of the sequence is taught and reinforced when completed correctly, after the learner completes step one with a predetermined criterion of accuracy the student is taught the next step of the sequence with reinforcement contingent upon completion of all previous steps.)
- •Backward Chaining (all behaviors identified in the task analysis are initially completed by the trainer, except for the final behavior in the chain)



Trial and Error with Error Correction Procedure

- •Trial and Error is a process in which the student is encouraged to try to guess or figure out the correct response and learn from any errors made.
- •MPSR Standard Error Correction Procedure (What do you do when a student makes an incorrect response)
 - Repeated Practice (Model, Prompt, Switch, Repeat)
 - <u>https://youtu.be/uzT9Z5bS4M0</u>



Error Correction Procedure in Trial and Error Learning

System of Least Prompts Standard Error Correction Procedure (What do you do when a student makes an incorrect response) (Think about Wait Time)

- 1. Independent (the student doe not need assistance)
- 2. Gestural Prompt (point or tap to get the students visual attention(avoid verbal prompt))
- 3. Verbal Prompt (do a verbal or physical demonstration of the action)
- 4. Modeling (verbal and physical demonstration)
- 5. Partial Physical Prompt (tactical assistance such as a tap at the elbow or hand)
- 6. Full Physical Prompt (hand over hand)



https://youtu.be/mYkx4i3kX4Y

Errorless Learning

- Errorless teaching is an instructional strategy that a student always respond correctly as each skill is taught, the student is provided with a prompt or cue immediately following an instruction. The immediate prompt prevents any chance for incorrect responses. Unlike other teaching procedures where opportunities for initial mistakes are allowed and then corrected through prompting, errorless learning's immediate prompting ensures that the student may only respond correctly. Prompts are systematically removed until children are able to respond correctly on their own.
- Prompting and or Fading Strategy
 - Constant Time Delay
 - Progressive Time Delay
 - Decreasing Prompting Hierarchy
 - Fading of Multiple Prompts



Prompting and or Fading Strategy in Errorless Learning

• Prompting and or Fading Strategy

- Constant Time Delay (time delay is a prompt fading strategy with the same amount of time between the instruction and the prompt, the delaying of prompts gives the student a brief window of opportunity to give a correct response on their own)
- Progressive Time Delay (time delay is a prompt fading strategy that systematically increases the amount of time between the instruction and the prompt, this delaying of prompts gives the student a brief window of opportunity to give a correct response on their own)
- Decreasing Prompting Hierarchy (most to least prompting, prompts are systematically faded by decreasing the intrusiveness of assistance provided to promote independence in responding.(full physical, partial physical, model, gesture)
- Fading of Multiple Prompts (example of decreasing prompt levels using time delay may be delaying prompts 2 seconds, then 3 seconds, and then 5 seconds. An example of decreasing prompts in most-to-least prompting may be lessening the intrusiveness from hand over hand, to a light physical touch, to shadowing the response without any physical contact.)



TADS and Teaching Strategy

step	Step/Behavior						
		Baseline Assessment	-Sick	Tria & Error/Standard Error Correction GlobalChaining Steps 1,2,9,10	Thanksgiving	Tria & Error/Standard Error Correction GlobalChaining Steps 1,2,6,7,9,10	— Gave opportuiny (No data)
10	Adjust collar	xxxxxx	10 X0 X0 X0	XXXXXX	X 10 10 10 10	10 10 10 10 10	10 10 10 10 10
9	Pull waistband down	XXXXXX	\$ 9 X 8 \$	X \$ \$ \$ \$ \$	\$\$\$	りりりちょ	1 9 1111
8	Adjust sleeves	XXXXXX	X 8 X X X	8999 X	8 8 9 9 9	99999	8888
7	Put non-dominant hand in sleeve	XXXXX	X 7 X X X	ХРРРР	ррр 77	PP 777	77777
6	Put dominant hand in sleeve	****	X 6 X X X	XPPPP	pp 66	P P X X &	X 6.666
5	Open shirt, put head through neckhole	XXXXX	8 5 XXX	XBBBB	B B B 5 5	P P <mark>/ P</mark> P	997 5 PP
4	Grab waistband with dominant hand, then grab w/ other hand	XXXXX	X 4 X X X	X P P P P	PBB-4 - 4	- 🖗 🥰 🗗 Р Р	P 4 PPP
3	Grasp shoulder & unfold so back of shirt is facing student	<u> </u>	3 × 3 3	XBBBB	9 9 8 3 3	8 8 8 8 8 8	P 3 P P
2	Take out shirt	XXXX	2 2 🕖 1 1	えんれれ	<u>1</u> 1 1 2 2	はんれれれ	Z 2 Z Z Z
1	Open drawer	XXXX	XIXXX	$\chi \chi \chi \chi \chi$	X X X 1 1	ΧΧΧΛΛ	X 1 X / X
		0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
	Codes: Location	c p w p o	w w p c	w p w p c	w p w	w p w p c	w p w p c
L	4	11/4 11/5 11/6 11/7 11/8	11/ 11/ 11/ 11/ 11/ 11 12 13 14 15	11/ 11/ 11/ 11/ 11/ 18 19 20 21 22	11/ 11/ 11/ 11/ 11/ 25 26 27 28 29	12/2 12/3 12/4 12/5 12/6	12/9 12/10 12/11 12/ 12 13

Discussion

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Parts of a Task Analysis

- Chaining Strategy
 - Forward Chaining
 - Backward Chaining
 - Total Task Presentation
- Errorless Learning(be sure to note the specific prompt/fade procedure)
 - Constant time delay
 - Progressive time delay
 - Decreasing prompt hierarchy
 - Fading of Multiple prompts

- Teaching Strategy
 - Teaching Approach
 - Trial and Error(be sure to note the error correction procedure)
 - Standard Error Correction Procedure
 - System of Least Prompts (verbal prompt, gestural prompt, model prompt, physical prompt)



TADS

Goal	e:A	N	atural Conseq		X = inco P = pron	ect response prrect response npted response tal Number Ste	•
step	Step/Behavior		Е				
20		20 20 20 20 20 20	20 20 20 20 20 20	20 20 20 20 20 20	20 20 20 20 20 20	20 20 20 20 20 20	20 20 20 20 20 20
19		19 19 19 19 19 19	19 19 19 19 19 19	19 19 19 19 19 19	19 19 19 19 19 19	19 19 19 19 19 19	19 19 19 19 19 1
18		18 18 18 18 18	18 18 18 18 18	18 18 18 18 18	18 18 18 18 18	18 18 18 18 18	18 18 18 18 1
17		17 17 17 17 17	17 17 17 17 17	17 17 17 17 17 17	17 17 17 17 17 17	17 17 17 17 17 17	17 17 17 17 1
16	B	16 16 16 16 16	16 16 16 16 16	16 16 16 16 16	16 16 16 16 16	16 16 16 16 16	16 16 16 16 1
15		15 15 15 15 15	15 15 15 15 15	15 15 15 15 15	15 15 15 15 15	15 15 15 15 15	15 15 15 15 1
14		14 14 14 14 14	14 14 14 14 14	14 14 14 14 14	14 14 14 14 14	14 14 14 14 14	14 14 14 14 1
13		13 13 13 13 13 13	13 13 13 13 13 13	13 13 13 13 13	1 13 13 13 13	13 13 13 13 13	13 13 13 13 1
12		12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 12	12 12 12 12 12 1
11		11 11 11 11 11	11 11 11 11 11	11 11 11 11 11	11 11 11 11 11	11 11 11 11 11	11 11 11 11 1
10		10 10 10 10 10	10 10 10 10 10	10 10 10 10 10	10 10 10 10 10	10 10 10 10 10	10 10 10 10 1
9		99999	99999	99999	99999	99999	9999
8		88888	88888	88888	88888	88888	8888
7		77777	77777	77777	77777	77777	7777
6		66666	66666	66666	66666	66666	6666
5		55555	55555	55555	55555	55555	5555
4		4 4 4 4 4	44444	4 4 4 4 4	44444	4 4 4 4 4	4444
3		3 3 3 3 3	3 3 3 3 3	3 3 3 3 3	3 3 3 3 3	3 3 3 3 3	3 3 3 3
2		2 2 2 2 2 2	2 2 2 2 2 2	2 2 2 2 2 2	2 2 2 2 2 2	2 2 2 2 2 2	2 2 2 2 2
1		11111	1 1 1 1 1	1 1 1 1 1	11111	1 1 1 1 1	1 1 1 1
		0.0.0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0
	Codes: Location						
	G Date						

Figure 2

Name: Dominick

Goal: __Given morning routine, end of work, & end of PE class, Dominick will

independently put on a sweatshirt, 3 out of 4 consecutive opportunities per location.

Data: / = correct response X = incorrect response P = prompted response

Circle Total Number Steps Correct

Natu	al Cue(s): T-shirt on, cold	Natural C	onsequences:	(not) warm e		_	•
step	Step/Behavior	Baseline Assessment		Tria & Error/Standard Error Correction GlobalChaining Steps 1,2,9,10	Thanksgiving	Tria & Error/Standard Error Correction GlobalChaining Steps 1,2,6,7,9,10	Gave opportuiny (No data)
10	Adjust collar	****	30 10 30 30 30	****	X 10 10 10 10	18 18 10 10 10	10 10 10 10 10
9	Pull waistband down	XXXXXX	\$9 \$ \$\$	****	<i>\$\$\$</i> 999	\$\$\$\$\$\$	\$9\$ \$
8	Adjust sleeves	****	****	X 8 8 8 8	888988	888888	88888
7	Put non-dominant hand in sleeve	XXXXX	X7XXX	XPPPP	P P P 7 7	PP777	77777
6	Put dominant hand in sleeve	****	* 6 * * *	χρρρρ	p p p 6 6	P P X X	X 6.666
5	Open shirt, put head through neckhole	XXXXXX	25XXX	XPPPP	BBB 55	99999	9 9 9 C
4	Grab waistband with dominant hand, then grab w/ other hand	XXXXX	X 4 X X X	XRRRR	8,20 + +	•• 🖗 🍯 🖗 🖗 🕶 ••	P 4 P P P
3	Grasp shoulder & unfold so back of shirt is facing student	XXXXX	3 3 X 3 8	XPEBE	🥶 👂 🖻 3 3	PPPPP	p 3 p p p
2	Take out shirt	XXXXX	22022	22222	22222	222222	22222
1	Open drawer	XXXXXXXX	XIYXX	XXXXX	XXX11	X X X X X	X1XXX
	-	000000	00000	00000	00000	00000	00000
	Codes: Location	c p w p c	J J J J <u>J</u> *.	wpwpc	w p w	wpwpc	w p w p c
		11/4 11/5 11/6 11/7 11/8	11/ 11/ 11/ 11/ 11/ 11/ 12/ 13/ 14/ 15	11/ 11/ 11/ 11/ 11/ 18 19 20 21 22	11/ 11/ 11/ 11/ 11/ 25 26 27 28 29	12/2 12/3 12/4 12/5 12/6	12/9 12/10 12/11 12/ 12/ 12 13

C = classroom simulation

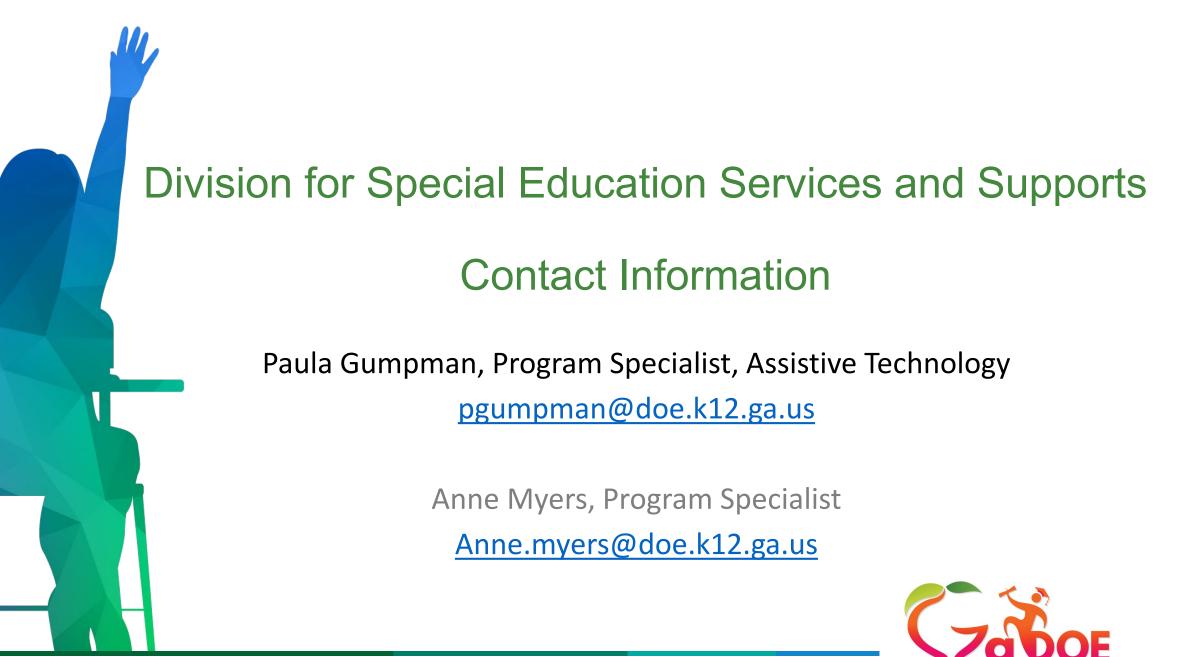
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