Digital Learning Initiative
Needs Assessment and Digital Learning Options

June 13, 2016

Many People Contributed to This Work

- Digital Learning Initiative Team (42 people)
- 2015-2016 Activities
  - Eight DLI committee meetings (October 15, November 12, November 17, December 10, December 17, January 14, February 18, April 14) - Meetings time ranged but were approximately two hours each (not including staff time to prepare in advance and follow-up afterward) / There are approximately 42 committee members in total
  - Two community engagement events (February 2016) - about ten total attendees not including committee members, plus an online comment form was offered - each of those meetings was about 90 minutes long
  - Seven PTO President meetings updates ranged from a 10-minute update to a 45-minute presentation and Q&A
  - Two Board Meeting presentations – March (belief statements) and May (current state presentation) plus brief updates given as part of Superintendent's Report
  - Multiple presentations to, and discussions with, the Learning Committee
  - Variety of updates large and small shared through e-newsletters, PTOs, and principals / schools
  - Building Leadership Team Discussions
  - Teacher Survey
- All Staff and Community Members Had Opportunities to Participate
- Facilitator Mary Morgan Ryan

DLI was Developed to Address Issues such as:

- **Inconsistent Access** to Digital Tools to Meet Learning Goals
- **Cannot Plan** Comprehensive Technology Integration Professional Development Program
- **No District Plan** for Replacement of All Devices

Addressing the Need for Research

"There's no right or wrong side of this debate. Educational technology has its plusses and minuses. It's up to teachers, administrators, and district personnel to decide whether the good outweighs the bad."

www.edudemic.com/education-technology-pros-cons/

April 26, 2016

Current Student Device Ratios

	K-2	3	4	5	6-8
Elm	1.0	1.0	1.0	1:1	
Madison	.7 - .9	.7 - .9	.7 - .9	1:1	
Monroe	.7 - .9	.7 - .9	1:1	.7 - .9	
Oak	1.0	1.0	1:1	1:1	
Lane	.5 - .6	.5 - .6	.5 - .6	1:1	
Prospect	.7 - .9	1:1	1:1	.7 - .9	
Walker	1.0	1:1	1.0	1.0	
CHMS					.7 - .9
HMS					.5 - .6

5 Previous versions of this table had an error for Elm's ratios. They have been updated in this table.

Digital Learning Initiative is Aligned with District Vision Statement

To be a community school district where students develop the skills they need to change the world and the confidence they need to do it.

Digital Learning Initiative Belief Statements

1

Adopted by the Board of Education March 14, 2016

I. **We believe a variety of digital tools are necessary** to support and facilitate student learning opportunities, to effectively assess student understanding, and to adhere to District and state standards which require technology use. We further recognize digital tools can strengthen students' development in the areas of communication, collaboration, creativity, and critical thinking.

Digital Learning Initiative Belief Statements

2

Adopted by the Board of Education March 14, 2016

2. **We believe a variety of digital tools are essential** to support and facilitate differentiated instruction and can inspire students to become lifelong learners.

Digital Learning Initiative Belief Statements

3

Adopted by the Board of Education March 14, 2016

3. **We believe it is necessary to teach students a common set of digital skills**, including the ability to find, evaluate, utilize, share, and create content using digital devices, information technologies, and the Internet. In applying these skills, we must support students in being responsible digital citizens who use appropriate behavior while engaged with technology. We believe these skills must be standardized by grade level and integrated into the curriculum.

Digital Learning Initiative Belief Statements

4

Adopted by the Board of Education March 14, 2016

4. **We believe we must provide equitable access** to appropriate digital tools across our District 181 schools by grade level. Each teacher and student should be equipped with digital tools to use throughout the school day and at home as appropriate for learning and the learner.

Digital Learning Initiative Belief Statements

5

Adopted by the Board of Education March 14, 2016

5. **We believe ongoing staff professional development and support for all staff are necessary** for successful technology integration throughout the curriculum. It is critical that professional development include opportunities both in and out of the classroom to support high quality instruction.

Digital Learning Initiative Belief Statements

6

Adopted by the Board of Education March 14, 2016

6. **We believe long-term systemic strategic planning and financial investment are critical** to realizing and sustaining a robust Districtwide digital learning environment, with accountability for addressing these components:
   - Curriculum and digital content renewal
   - Professional development
   - Infrastructure and adequate staffing
   - Platform replacement cycle
   - Parent education
   - Digital safety and security
   - Periodic evaluation of plan implementation

Digital Learning Initiative Is Incorporated into Strategic Plan

Strategic Plan Goal Area 1: Academic Success

Objective 1a. Provide a high quality curriculum that enables all students to achieve their full academic potential and develop 21st century skills.

Strategy 1a-9. Integrate the Digital Learning Initiative belief statements into the strategic plan and related plans (e.g. technology replacement, learning environment, etc.)

Digital Tools are One Set of Learning Resources

Digital Learning Initiative

Needs Assessment

- Building Leadership Team Discussions
- Teacher Survey

Building Leadership Teams: Key Findings

Sharing devices, in general, is not best for students because it reduces instructional time and inhibits responsive, creative teaching and learning.
(93.5% 'Strongly Agree' or 'Agree')

Building Leadership Teams: Key Findings

"It is not best for students to plan lessons based on availability of technology versus planning based on instructional needs of students."

"We need technology available 'on the fly' for those teachable moments in the classroom."

Building Leadership Teams: Key Findings

Technology integration professional development is very important and should be a District priority.
(96.8% 'Strongly Agree' or 'Agree')

Building Leadership Teams: Key Findings

"Vast injection of job embedded differentiated PD"

"Job embedded teacher training in tools and integration - in small bits - this is very powerful and easier to apply in your teaching practice"

"Training on 'how to use tool' and time for collaboration and sharing ideas"

Building Leadership Teams: Key Findings

Teachers need to use technology to access District-provided or recommended resources that are increasingly available online.
(98.4% 'Strongly Agree' or 'Agree')

Teachers need to use technology to help students master learning standards that incorporate digital skills and tools.
(96.7% 'Strongly Agree' or 'Agree')

Building Leadership Teams: Key Findings

Leadership team discussion topics are reflective of the Board-adopted Digital Learning Initiative belief statements.

Teacher Survey: Introduction

How was the teacher survey administered?

- Survey Window: March 23-April 11
- Survey Administration: SurveyMonkey
- Launch page
- Data taken with an Asterisk (*)
- Note that *N* (total number of respondents in a group) changes based on relevant group of data

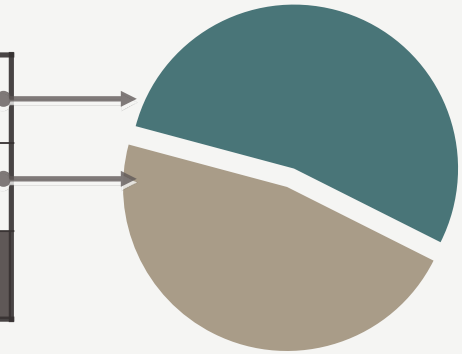
Teacher Survey: Demographics

Who took the teacher survey?

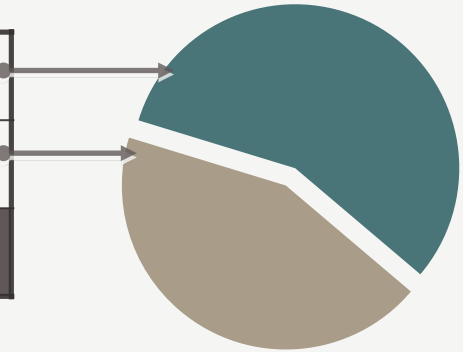
- Were all schools represented?
  - School information was intentionally not collected
- Were all grade levels represented?
  - Yes, and respondents included certified staff who work with more than one grade level
- How many teachers responded?
  - Over 60% of certified staff

Teacher Survey Q1: Roles

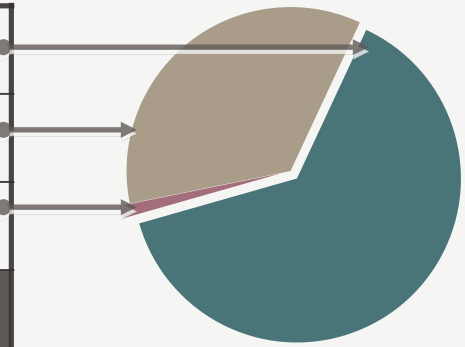
Elementary Grade Level	82
Elementary Other	72
Elementary ALL	154



Middle School Grade Level	48
Middle School Other	37
MS ALL	85



Elementary ALL	154
Middle School ALL	85
Districtwide	3
Total Responses	242



Teacher Survey Q1: Roles

Role	Number in D181	Responded	Response Percentage
Kindergarten	11	7	63.64%
1st Grade	18	14	77.78%
2nd Grade	18	15	83.33%
3rd Grade	19	14	73.68%
4th Grade	20	16	80.00%
5th Grade	20	16	80.00%
6th Grade	20	17	85.00%
7th Grade	21	17	80.95%
8th Grade	21	14	66.67%
Elementary Specials	33	23	69.70%
MS Encore	24	14	58.33%
Elementary Specialist	30	15	50.00%
MS Specialist	8	6	75.00%
Elementary SPED/PPS	52	34	65.38%
MS SPED/PPS	32	17	53.13%
Districtwide	7	3	42.86%
Totals	354	242	68.36%

Teacher Survey Q2: Environment

Shared

Students access devices from carts OR devices are shared per classroom/grade level

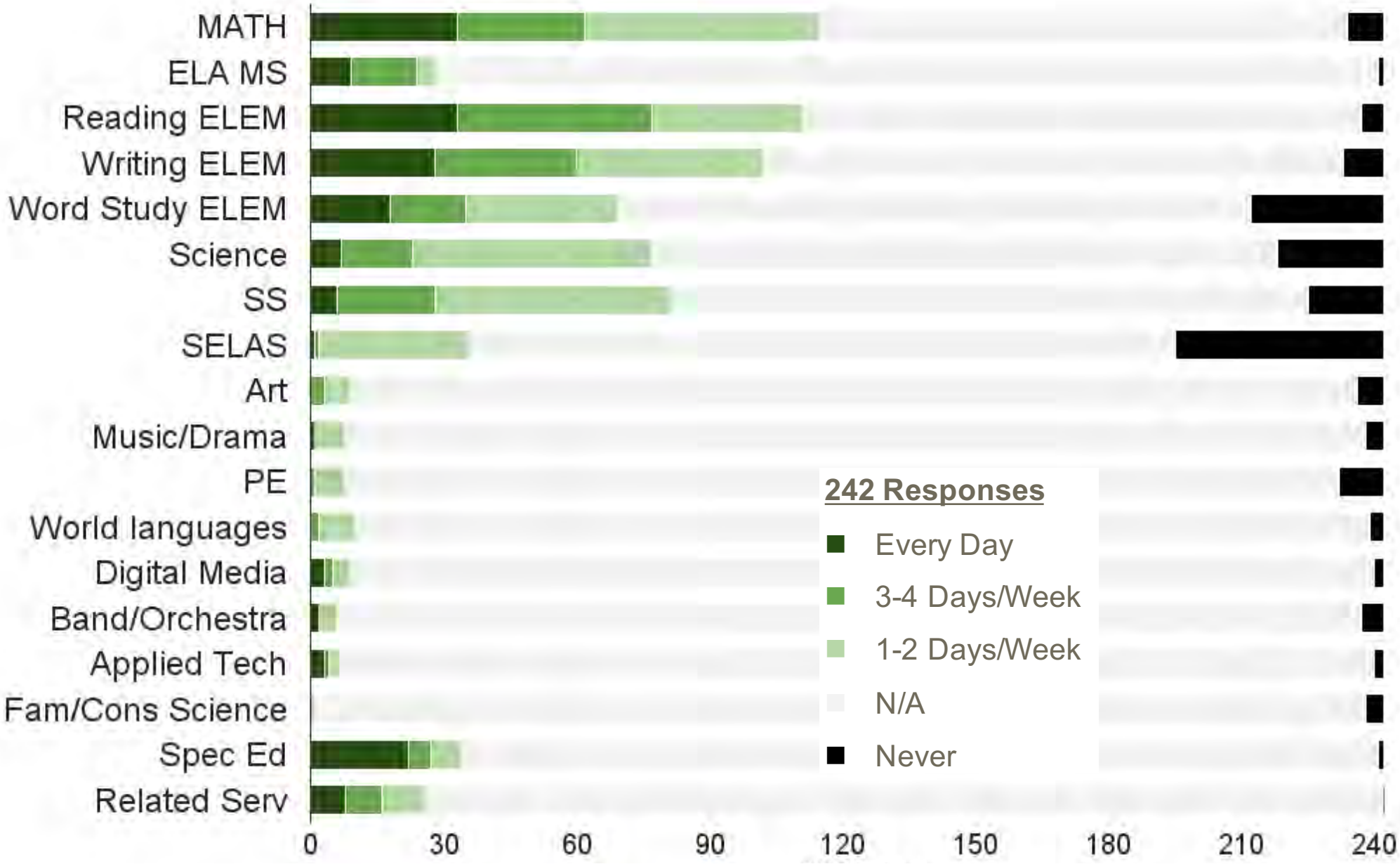
1:1

Student is deployed a device

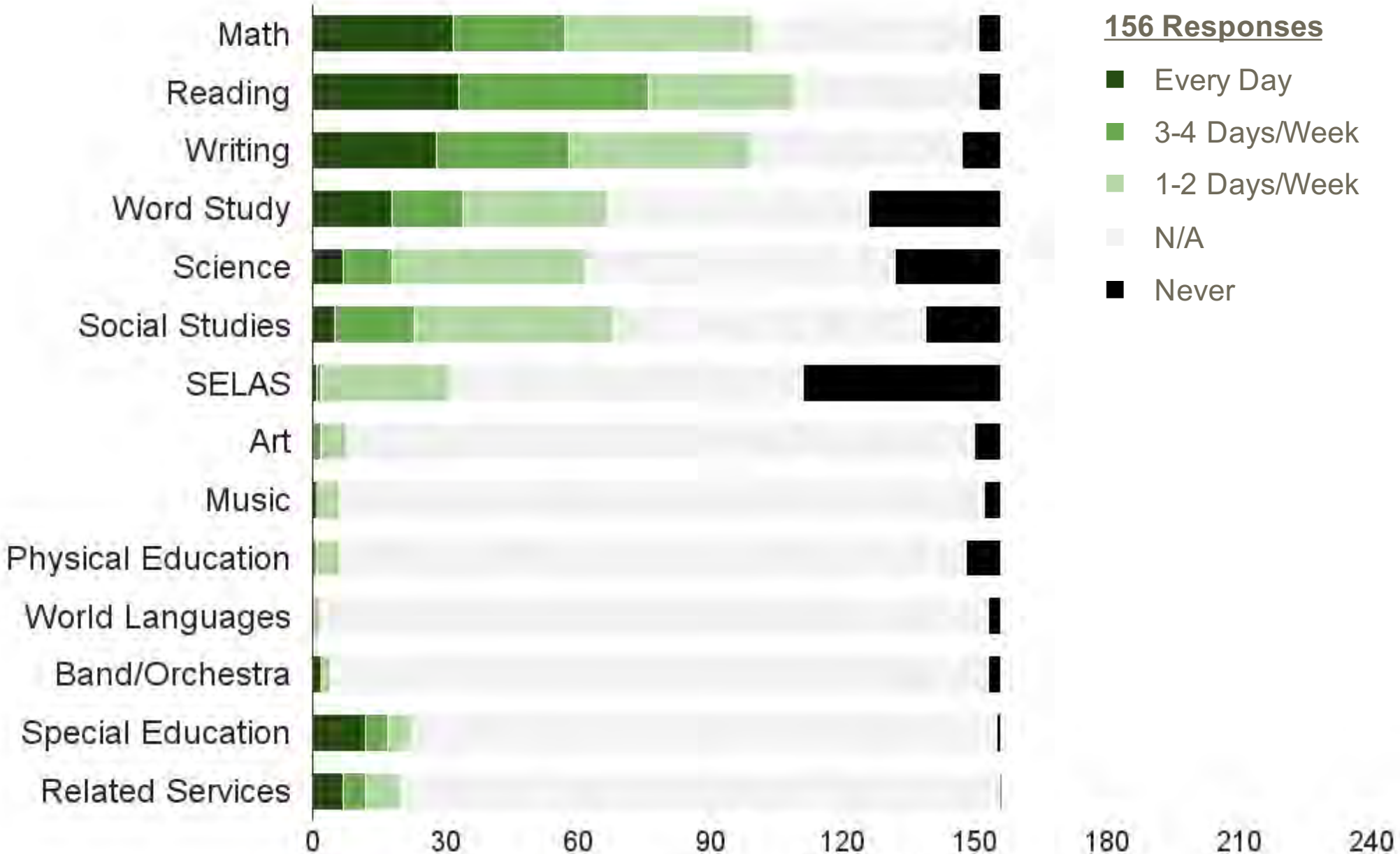
Current State

Questions 3, 4, 6-12

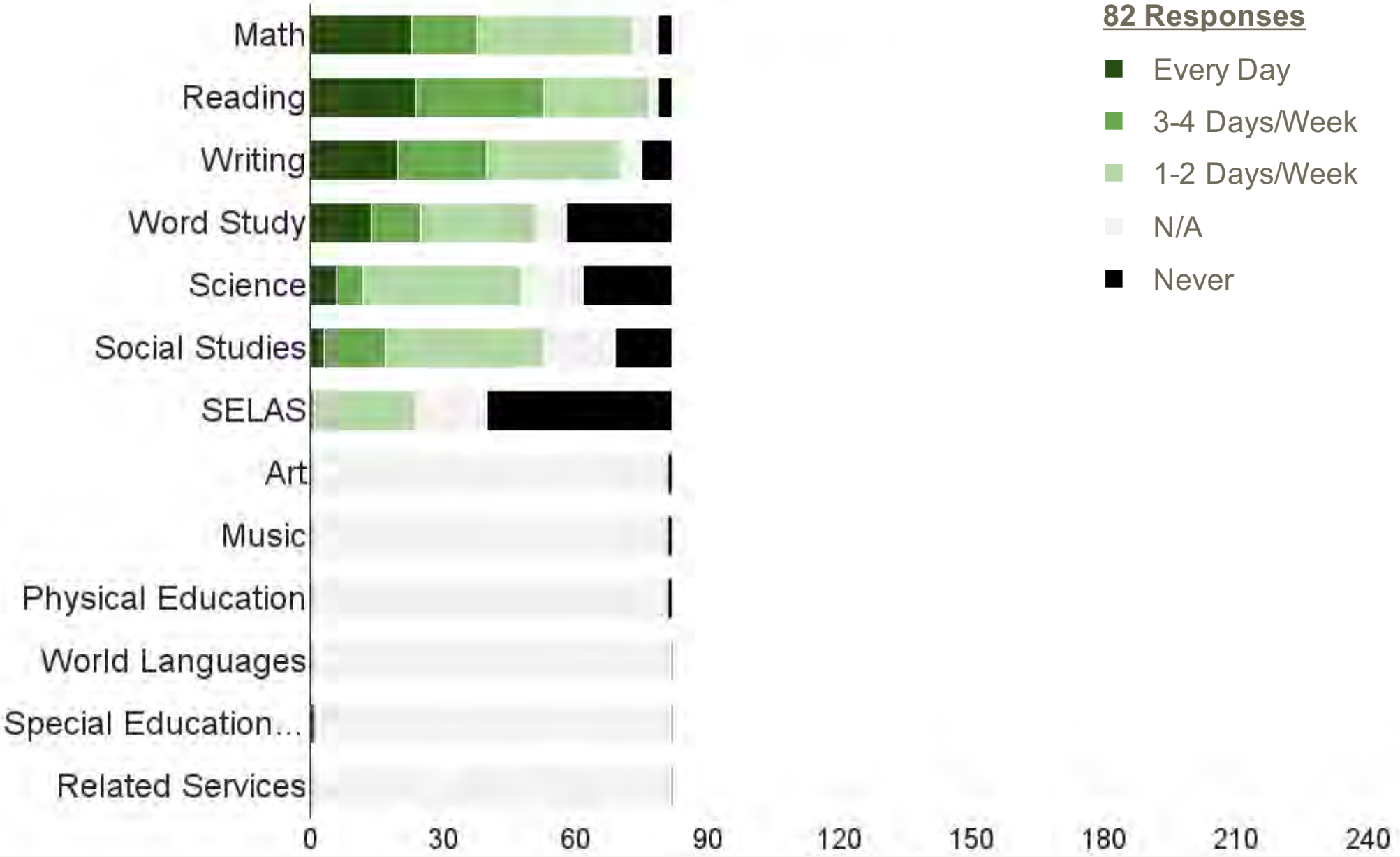
Q3: K-8 • Frequency



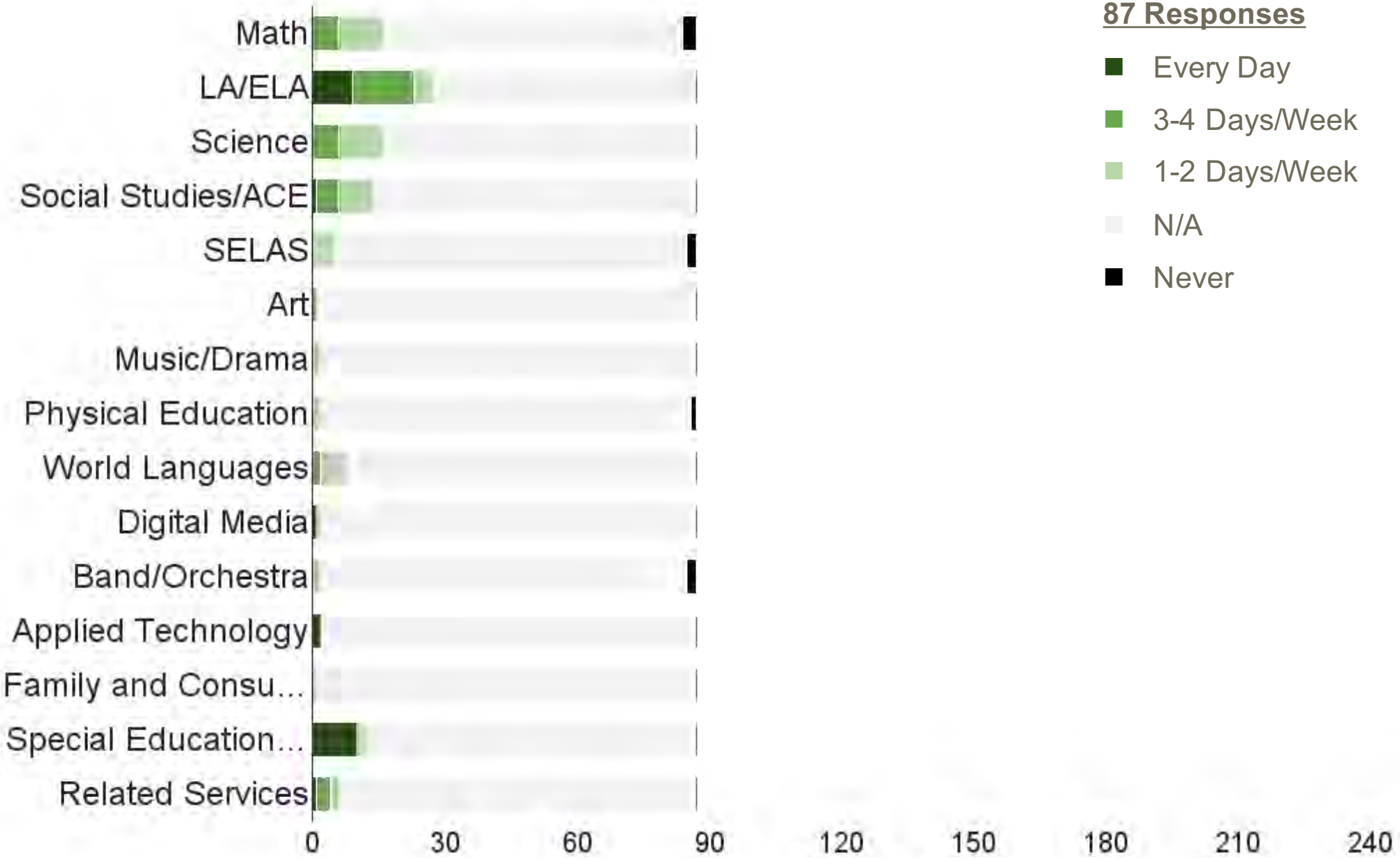
Q3: Elementary (All) • Frequency



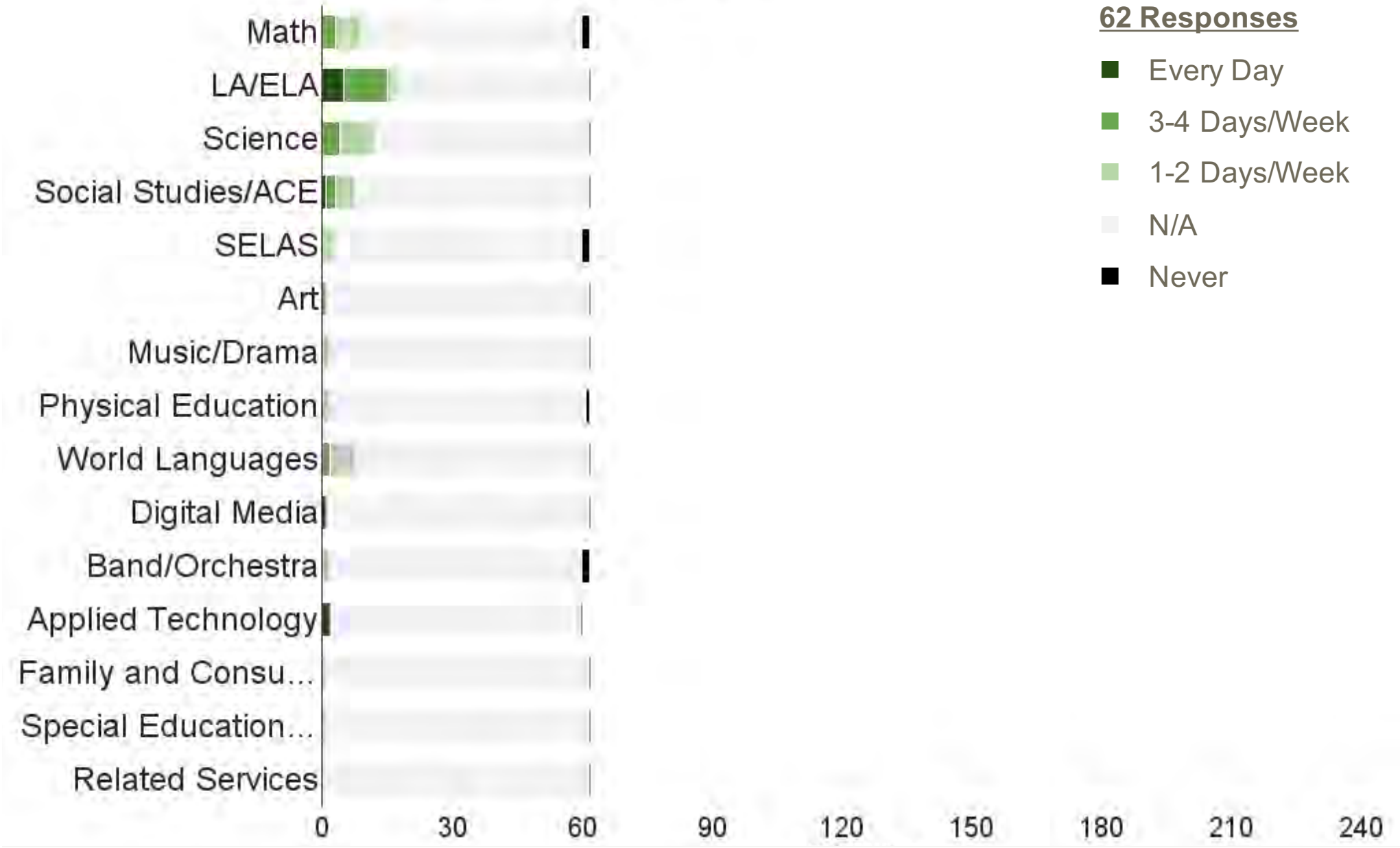
Q3: Elementary (Grade Level) • Frequency



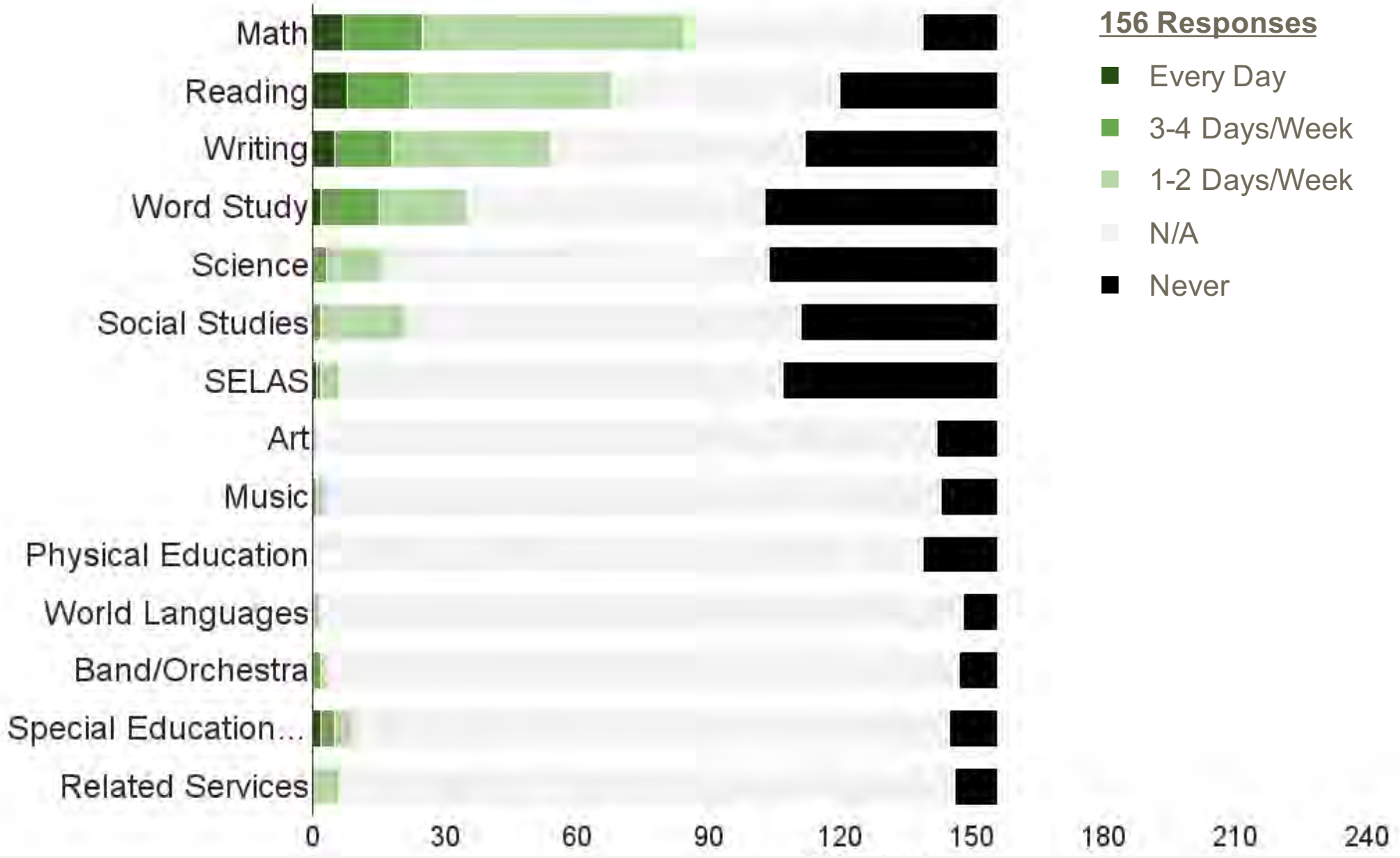
Q3: Middle School (All) • Frequency



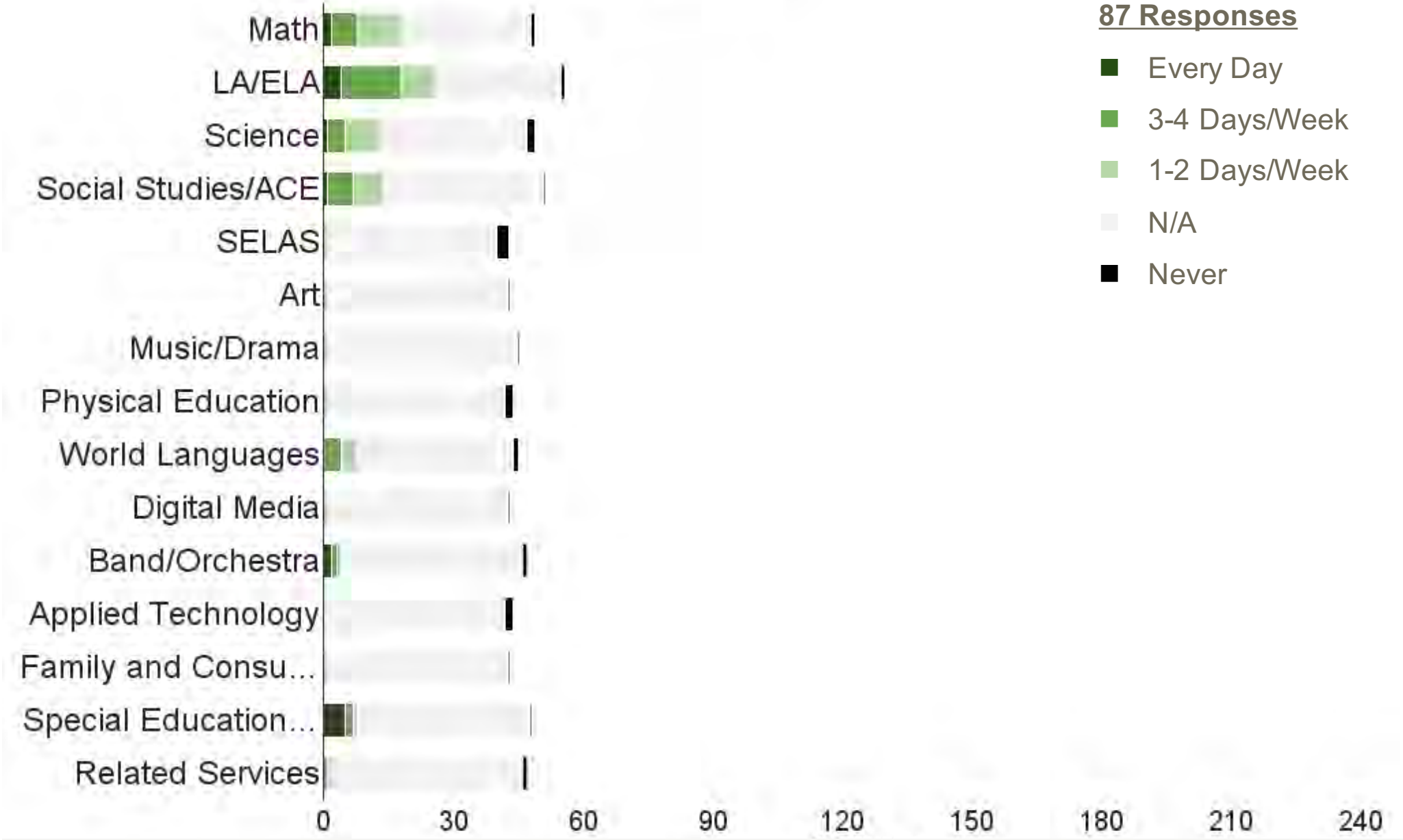
Q3: Middle School (Grade Level) • Frequency



Q4: Elementary (All) • Required for Homework

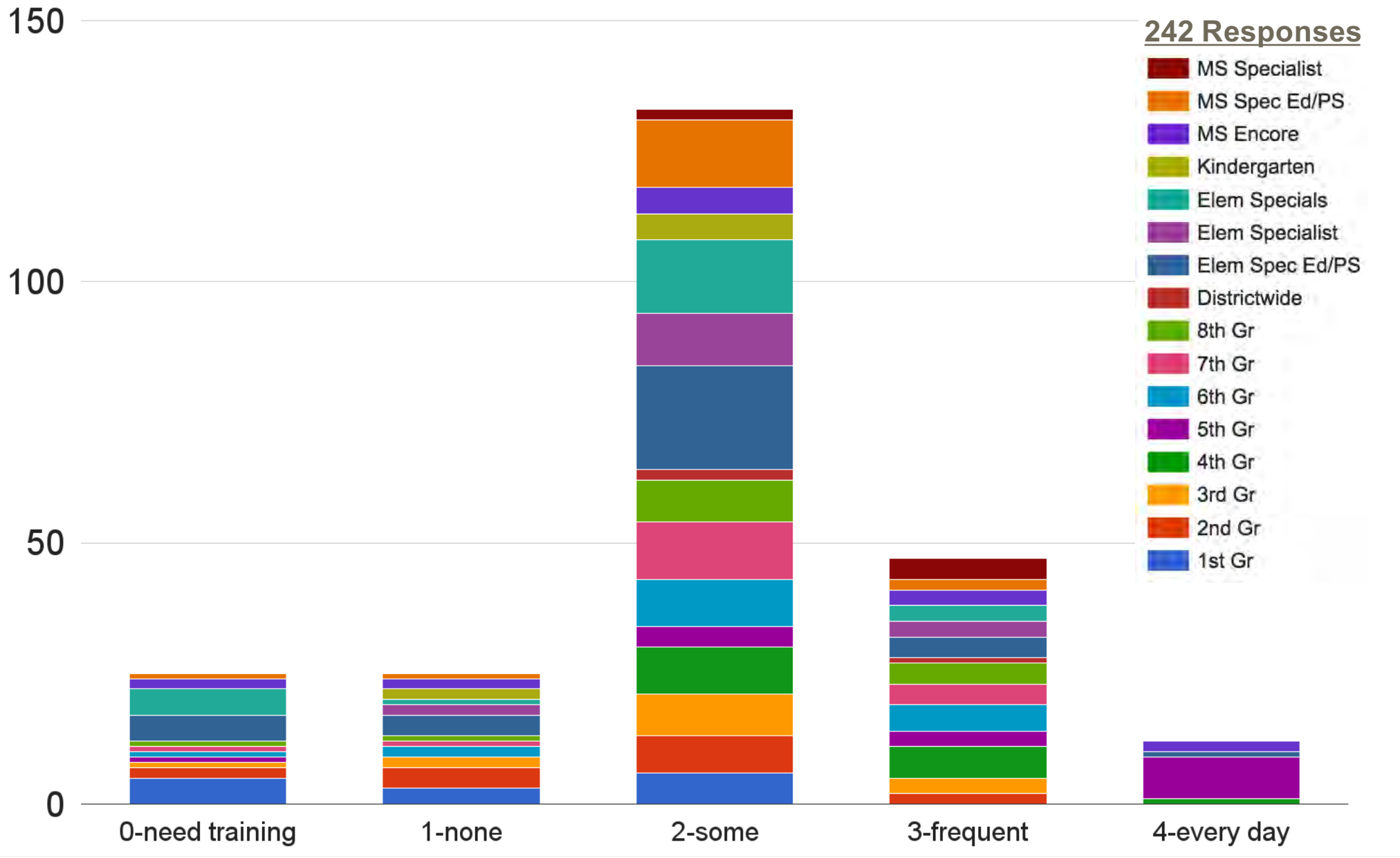


Q4: Middle School (All) • Required for Homework



Q6: All • Current Access

Opportunities to Master Technology Uses Embedded in the Learning Standards



Q6: Elementary (All) • Current Access

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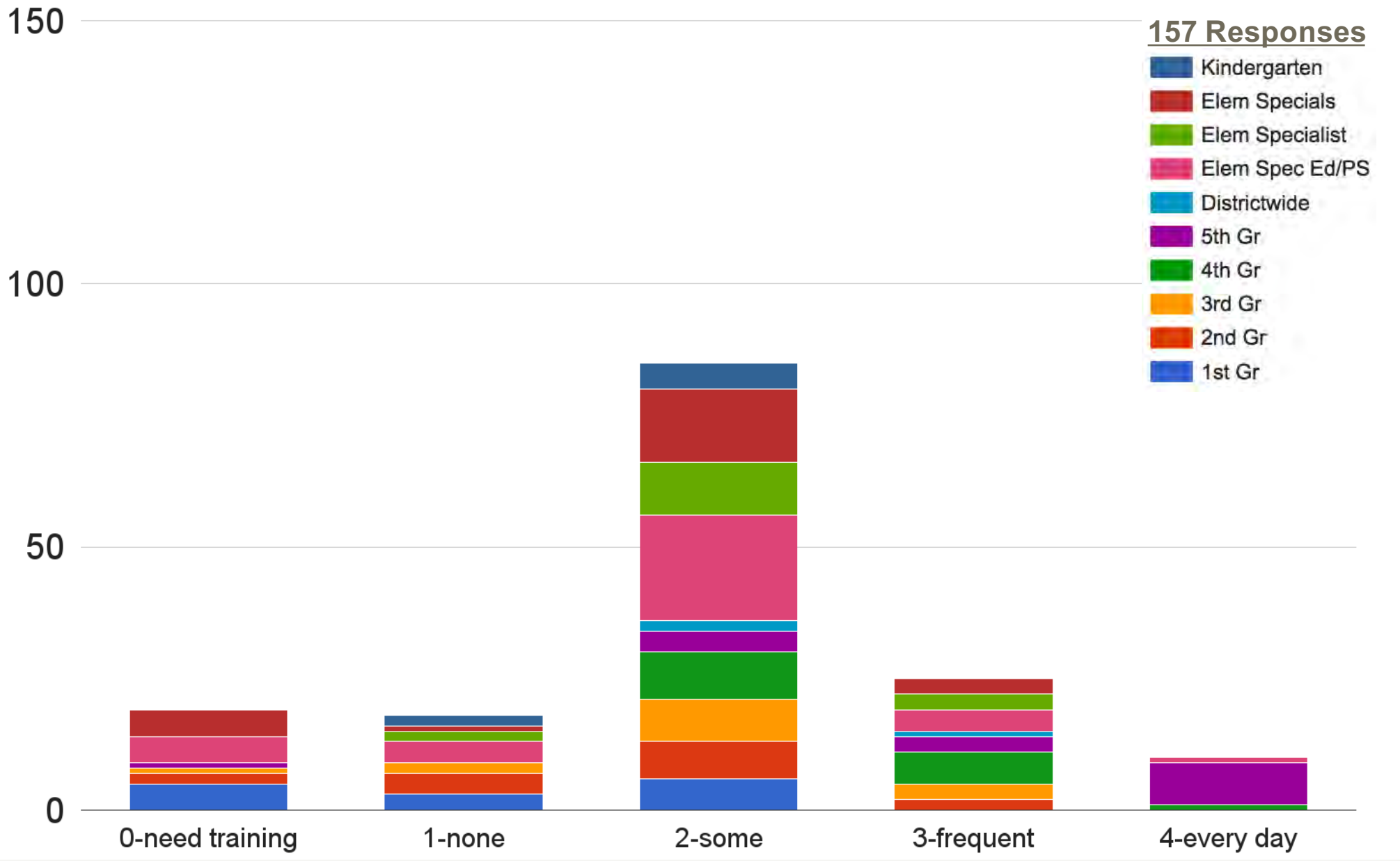

Q6: Elementary (Grade Level) • Current Access

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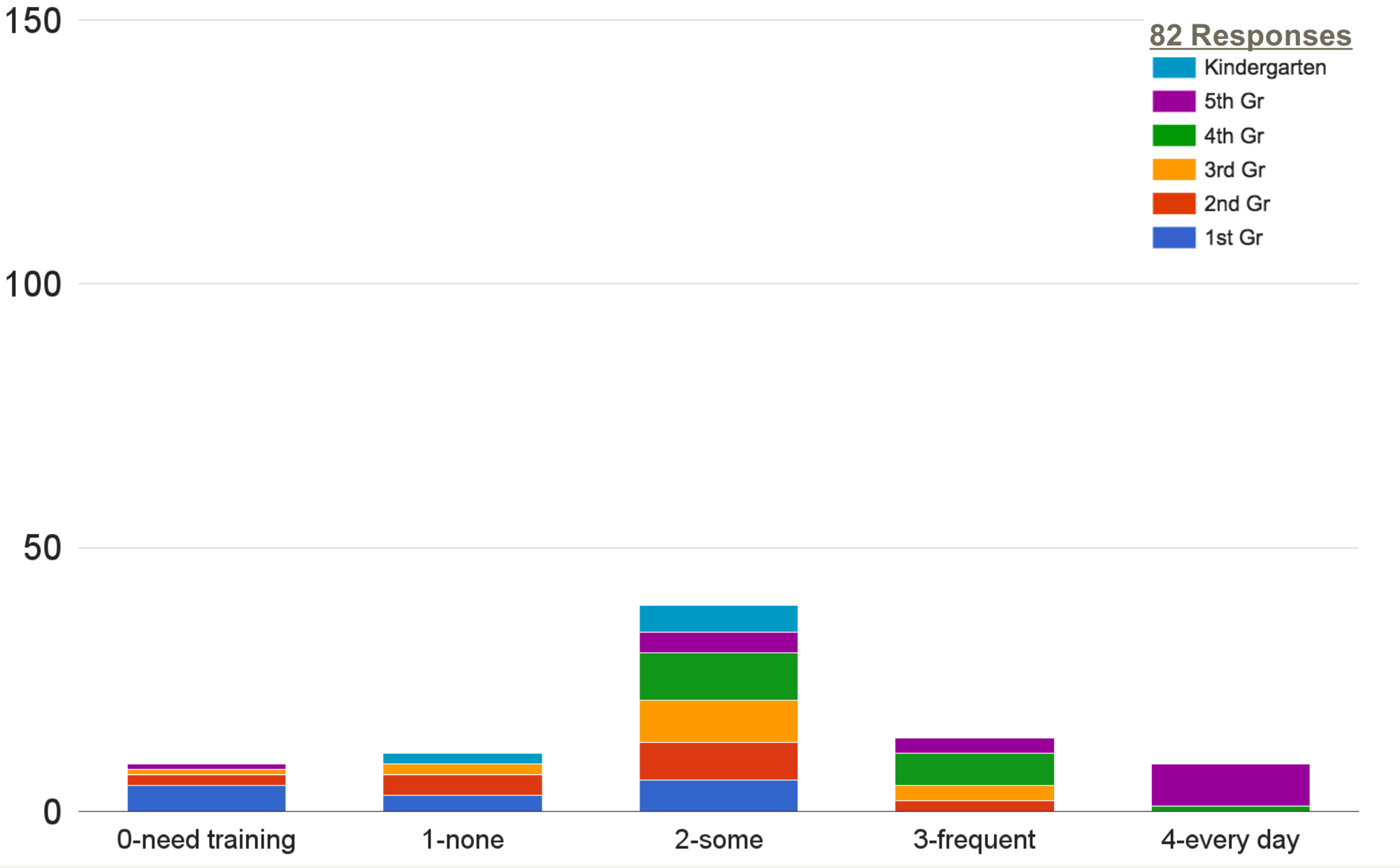
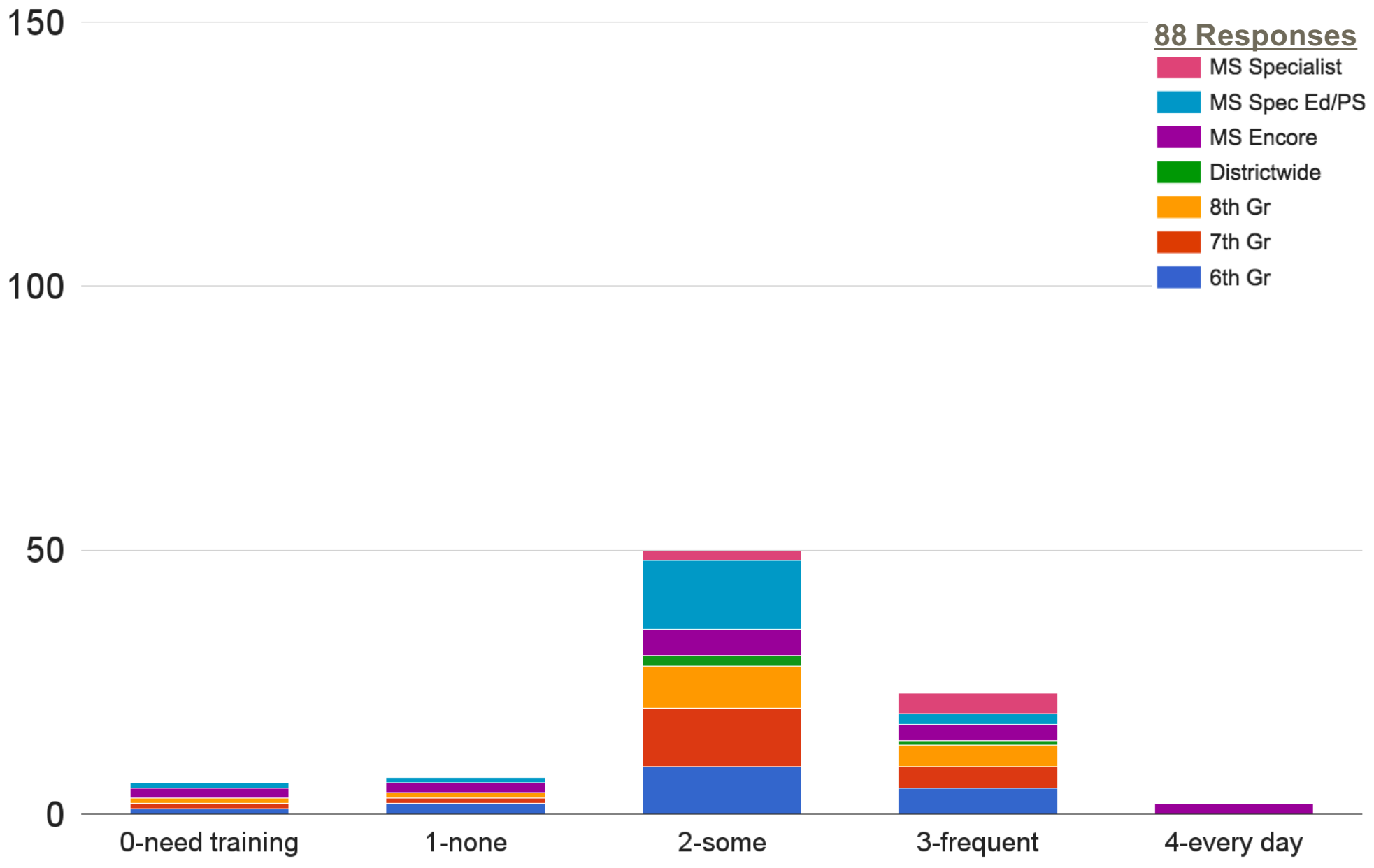


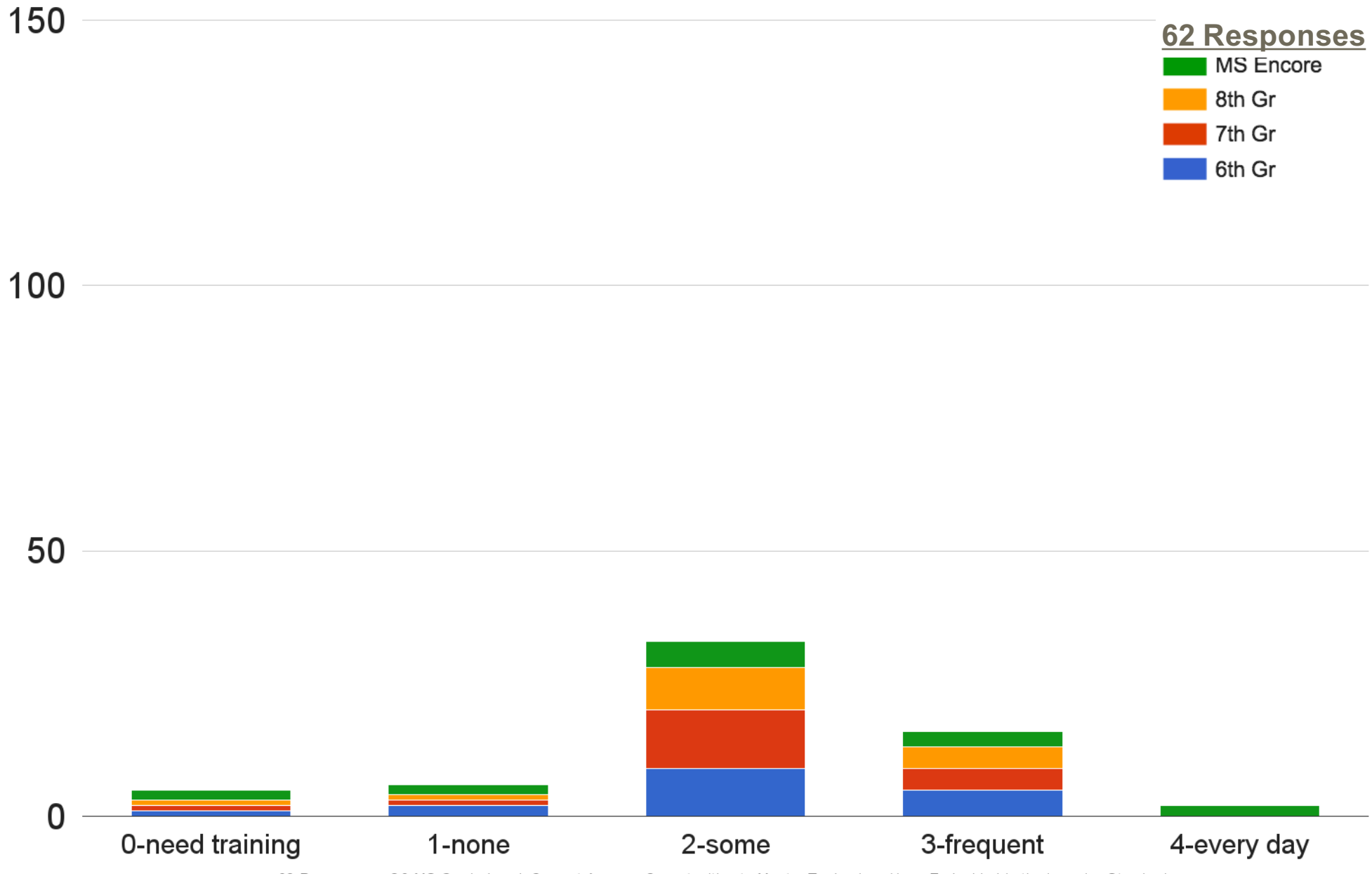
Q6: Middle School (All) • Current Access

Opportunities to Master Technology Uses Embedded in the Learning Standards



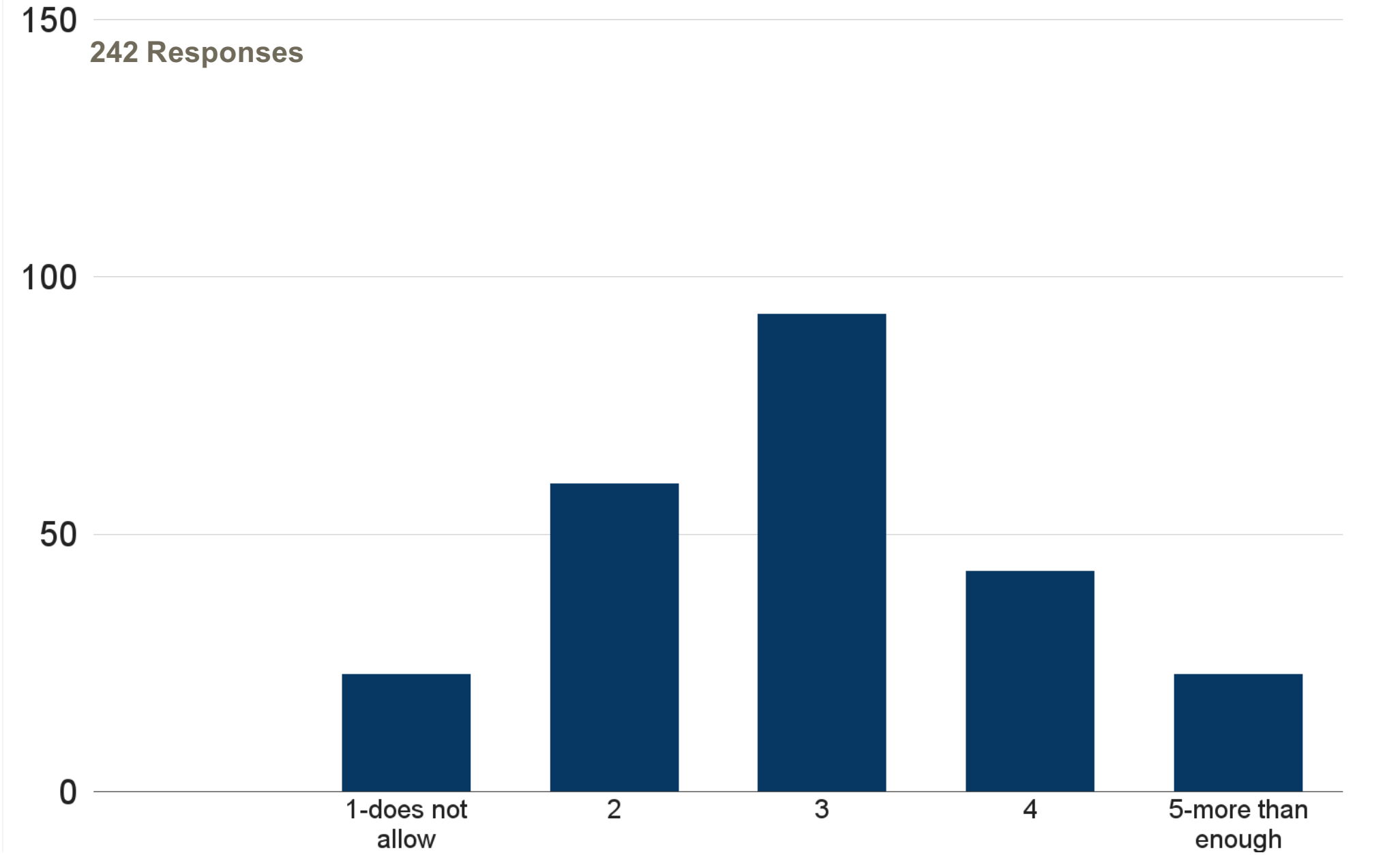
Q6: Middle School (Grade Level) • Current Access

Opportunities to Master Technology Uses Embedded in the Learning Standards



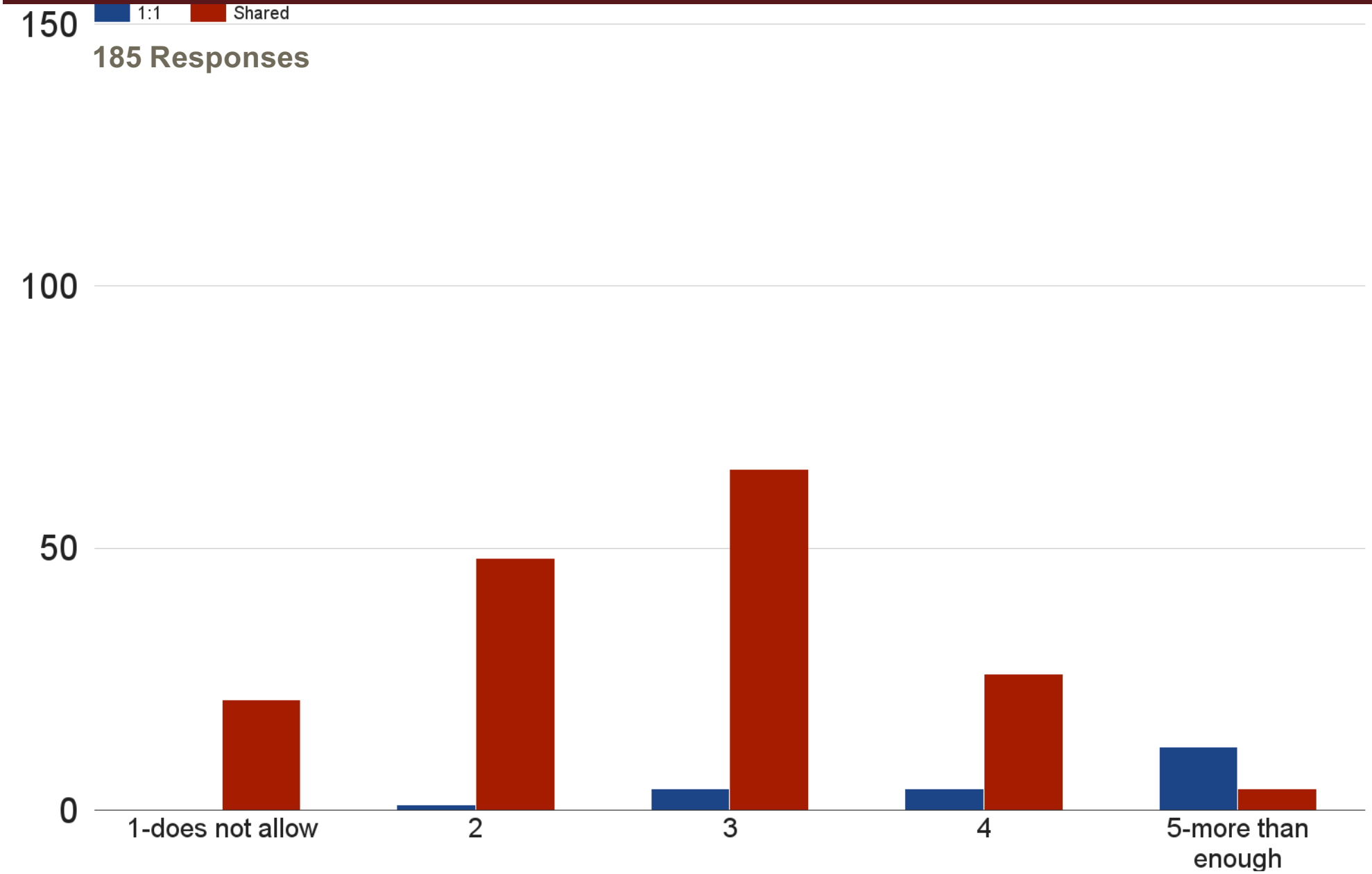
Q8: ALL • Current Access

Ability to Support and Facilitate Differentiated Instruction Using Digital Tools



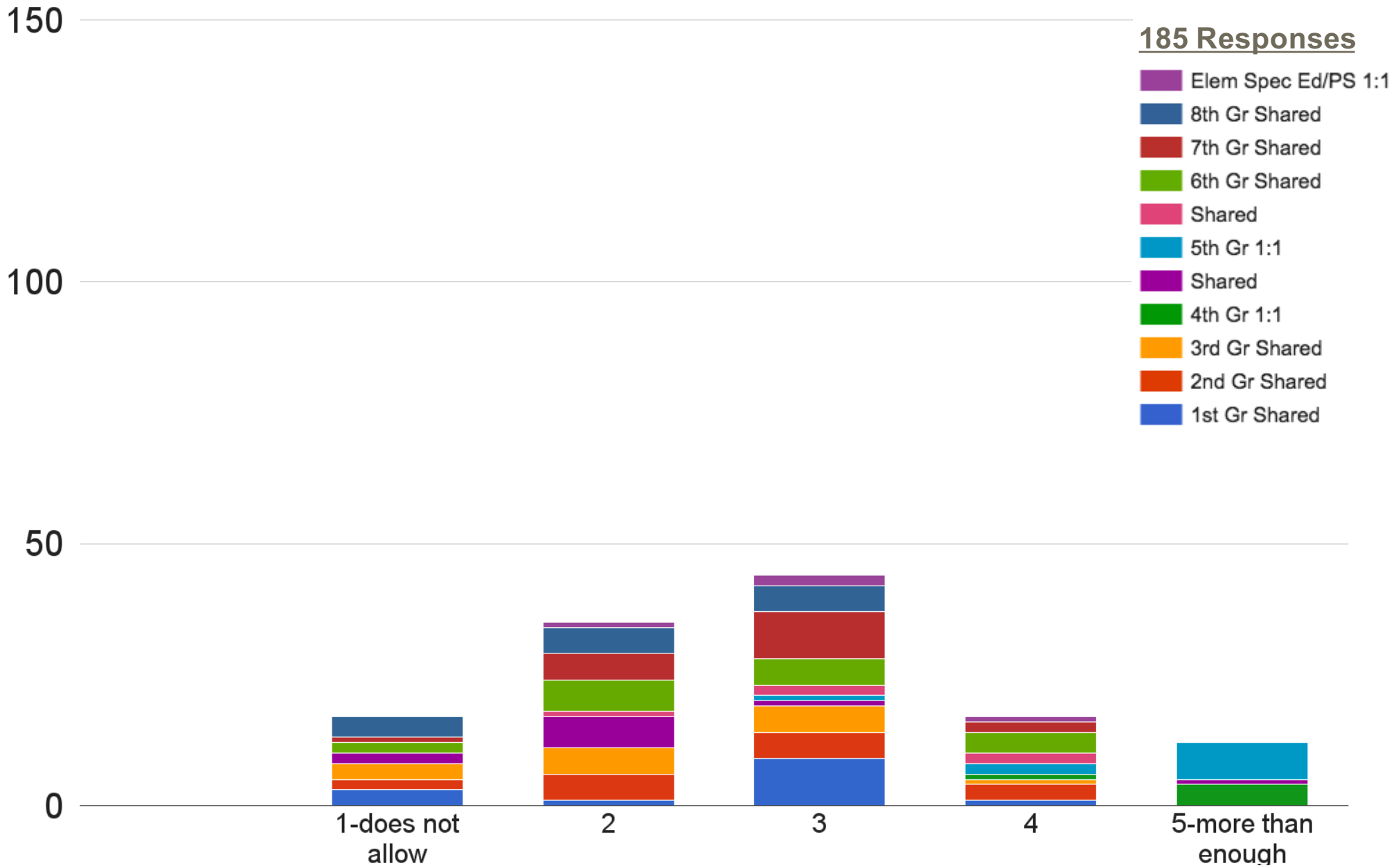
Q8: Shared/1:1 • Current Access

Ability to Support and Facilitate Differentiated Instruction Using Digital Tools



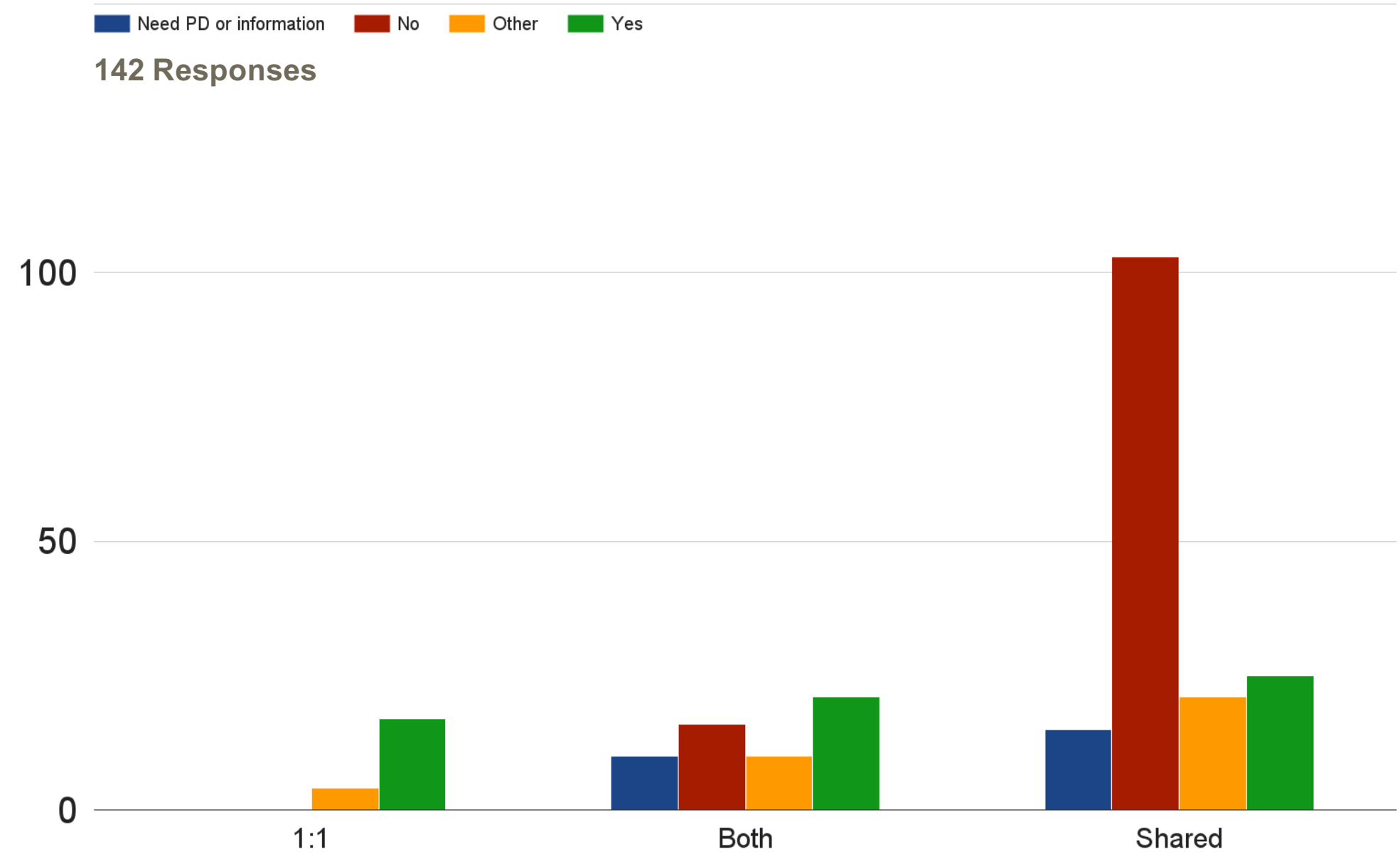
Q8: All (Grade Level) • Current Access

Ability to Provide Differentiated Instruction Using Digital Tools



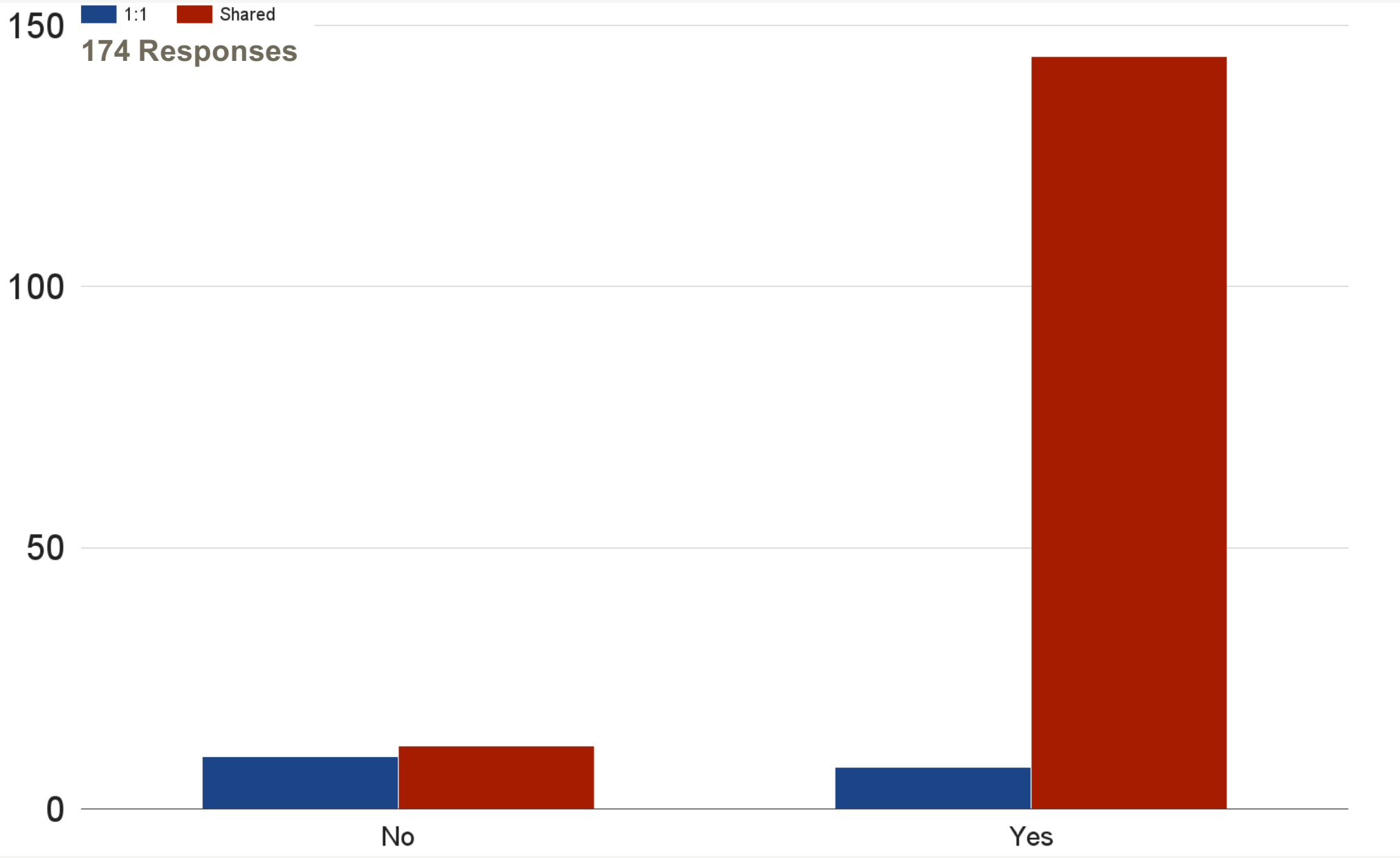
Q9 ALL • Enough Digital Tools

Do you have enough digital tools available to meet the learning needs of your students?



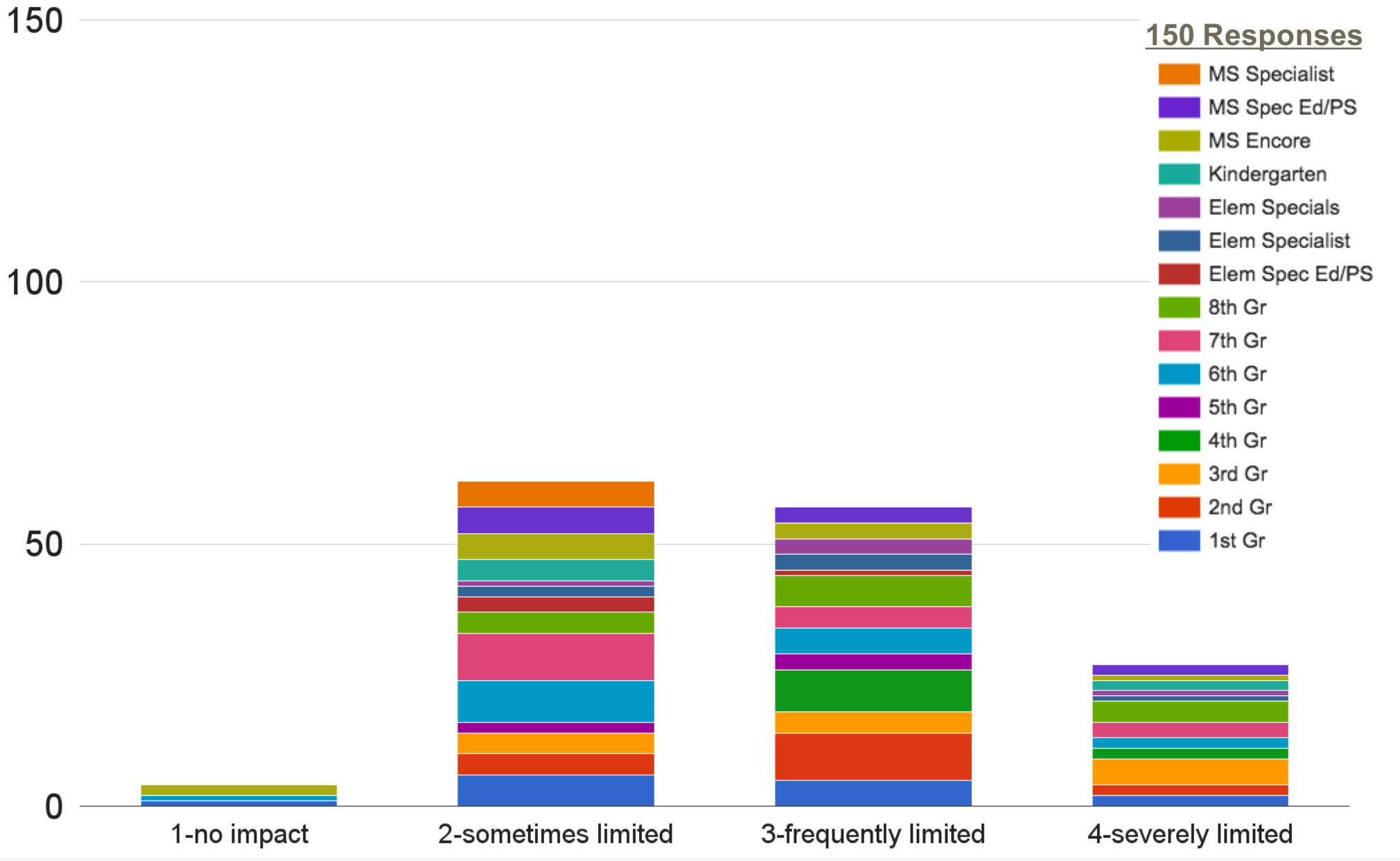
Q10: Shared/1:1 • District-Wide Testing

Is your access to digital tools limited during District-wide testing?



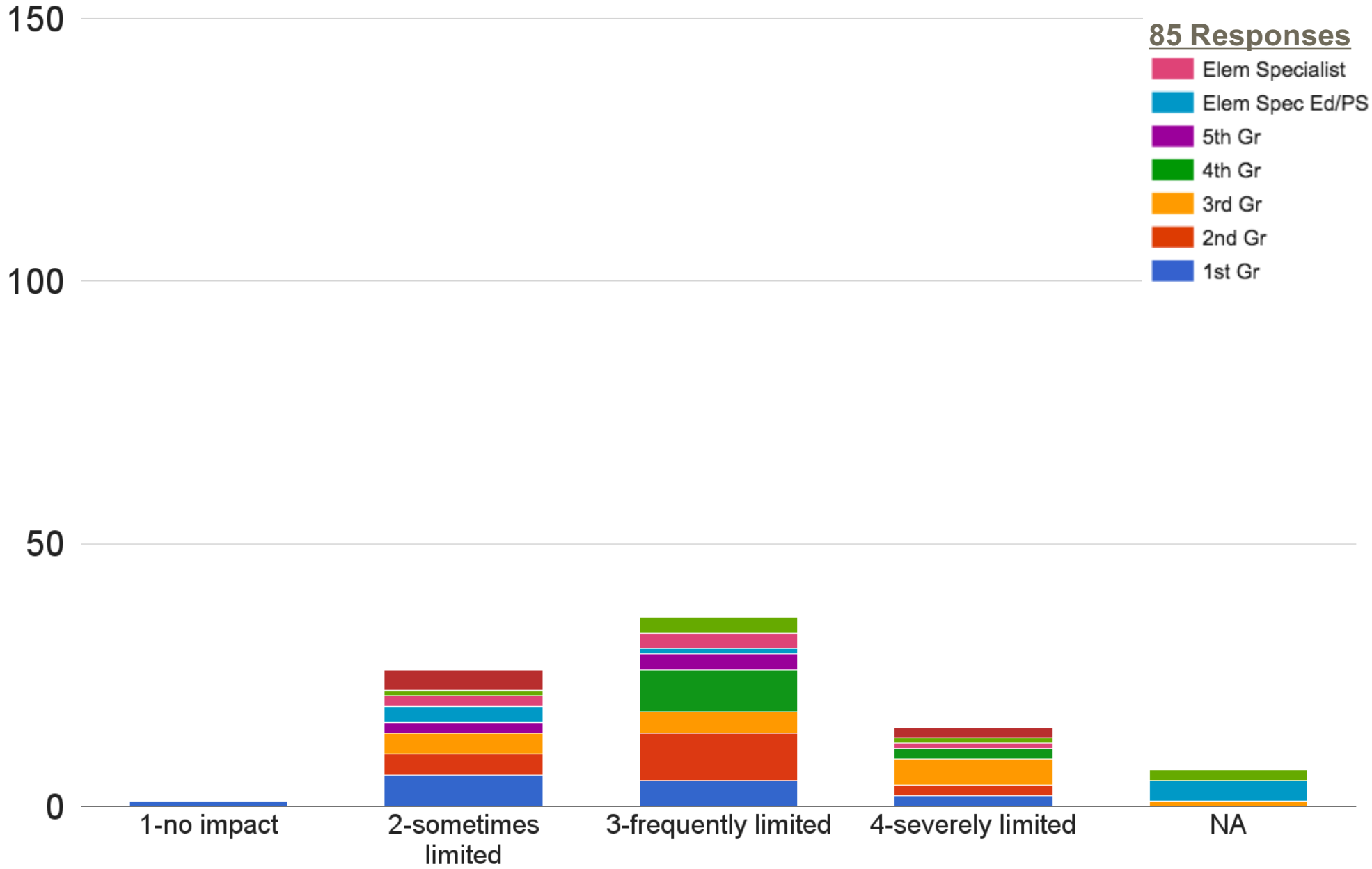
Q11: ALL • Shared

**If you teach in a shared environment,
how is your use of digital tools affected by shared access?**



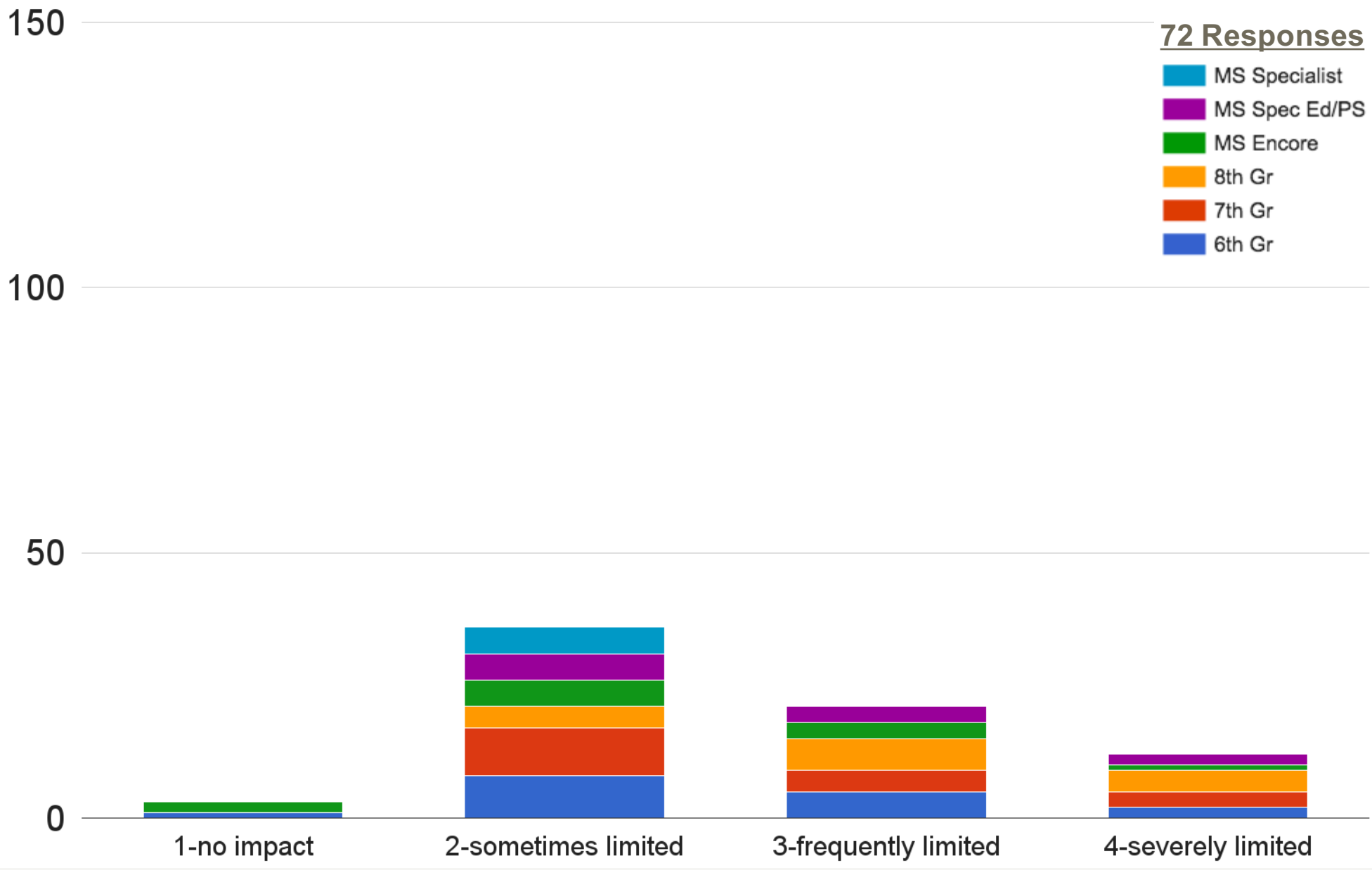
Q11: Elementary • Shared

If you teach in a shared environment, how is your use of digital tools affected by shared access?



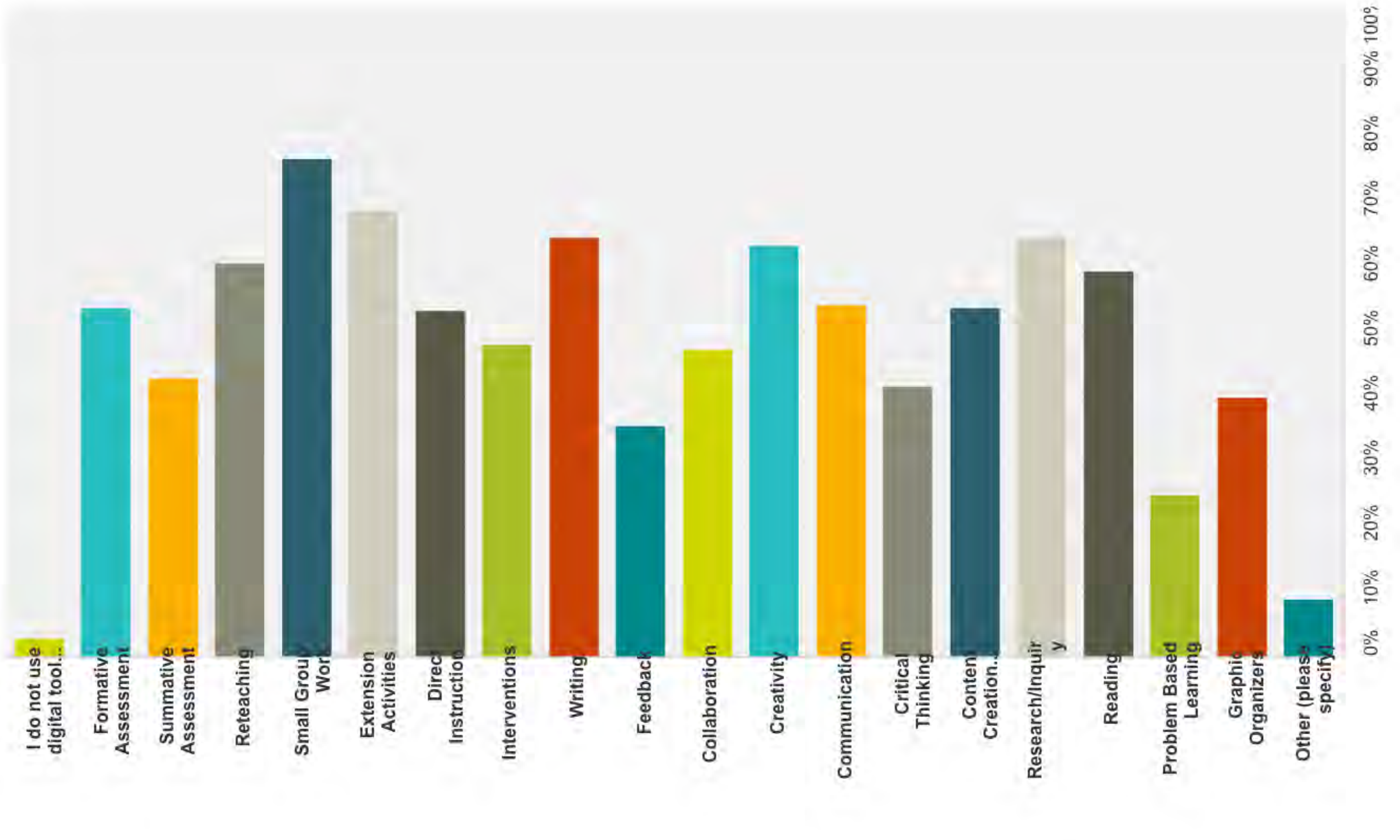
Q11: Middle School • Shared

If you teach in a shared environment, how is your use of digital tools affected by shared access?



Q12: Current Uses of Digital Tools

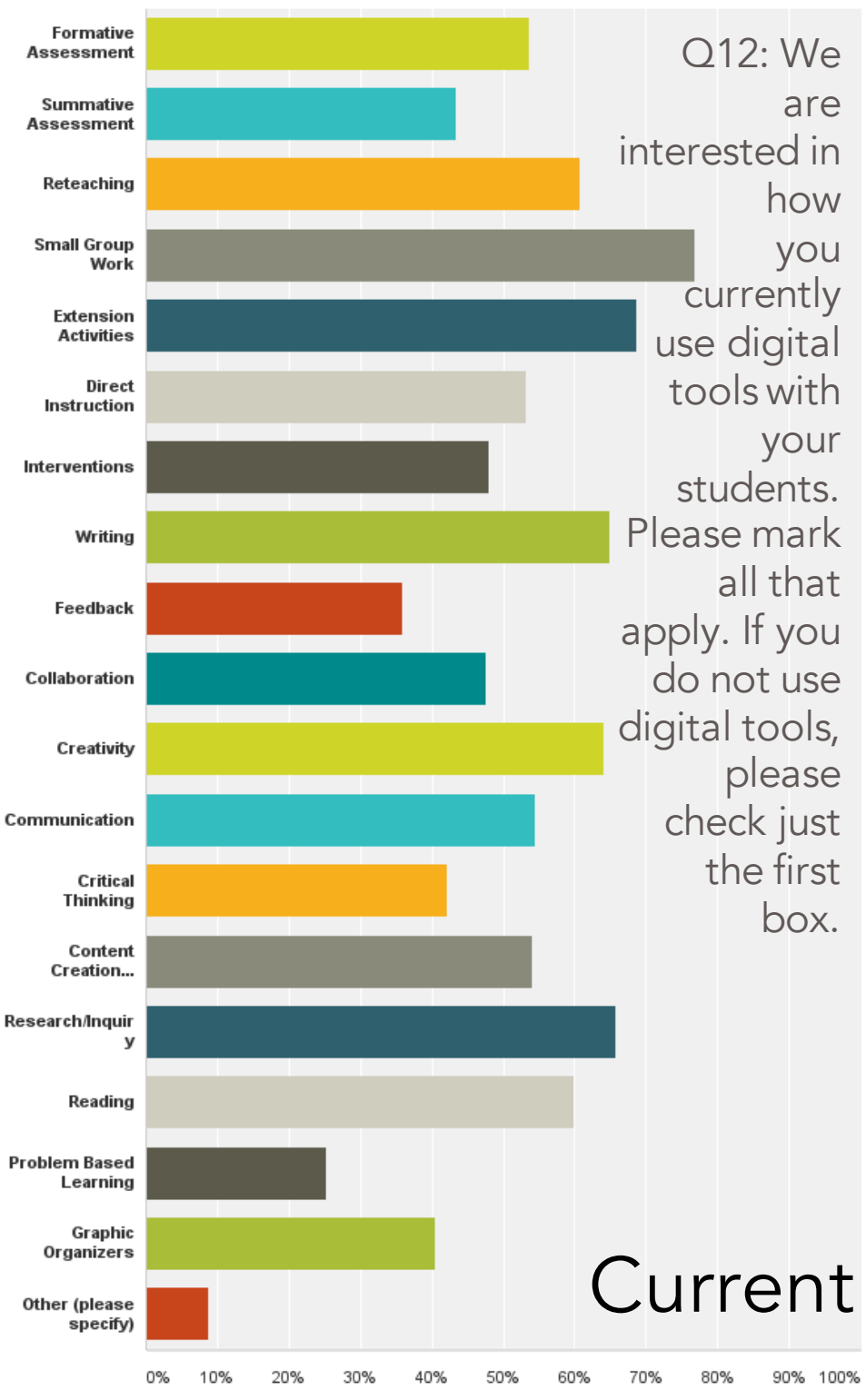
Specific Uses of Digital Tools



Teacher Survey Analysis

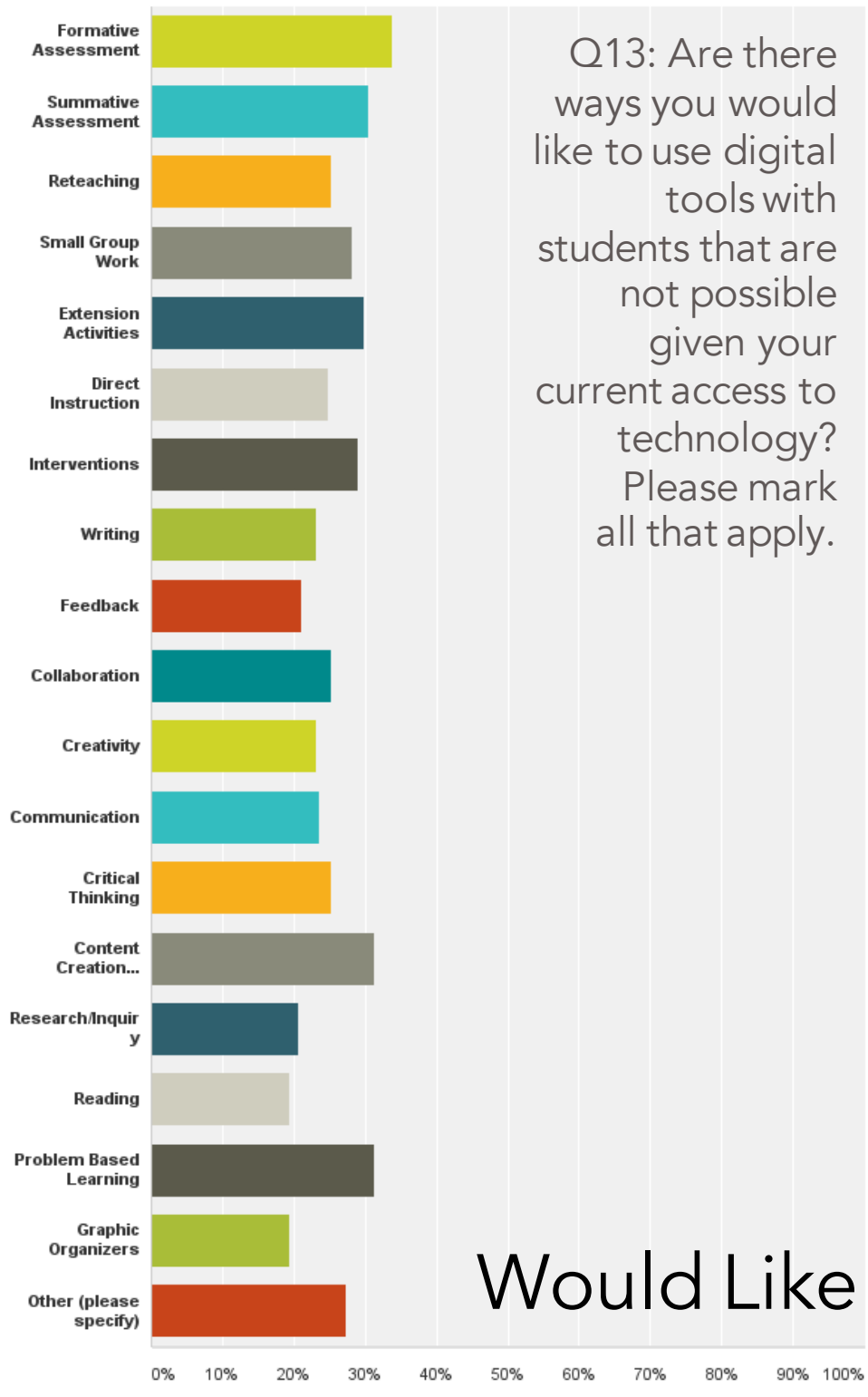
Future

Questions 5, 13, 14



Q12: We are interested in how you currently use digital tools with your students. Please mark all that apply. If you do not use digital tools, please check just the first box.

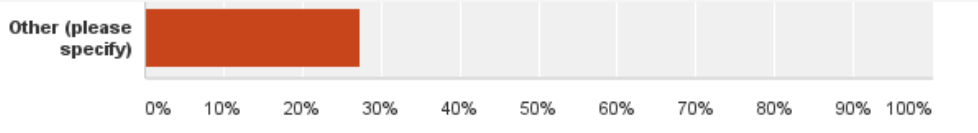
Current



Q13: Are there ways you would like to use digital tools with students that are not possible given your current access to technology? Please mark all that apply.

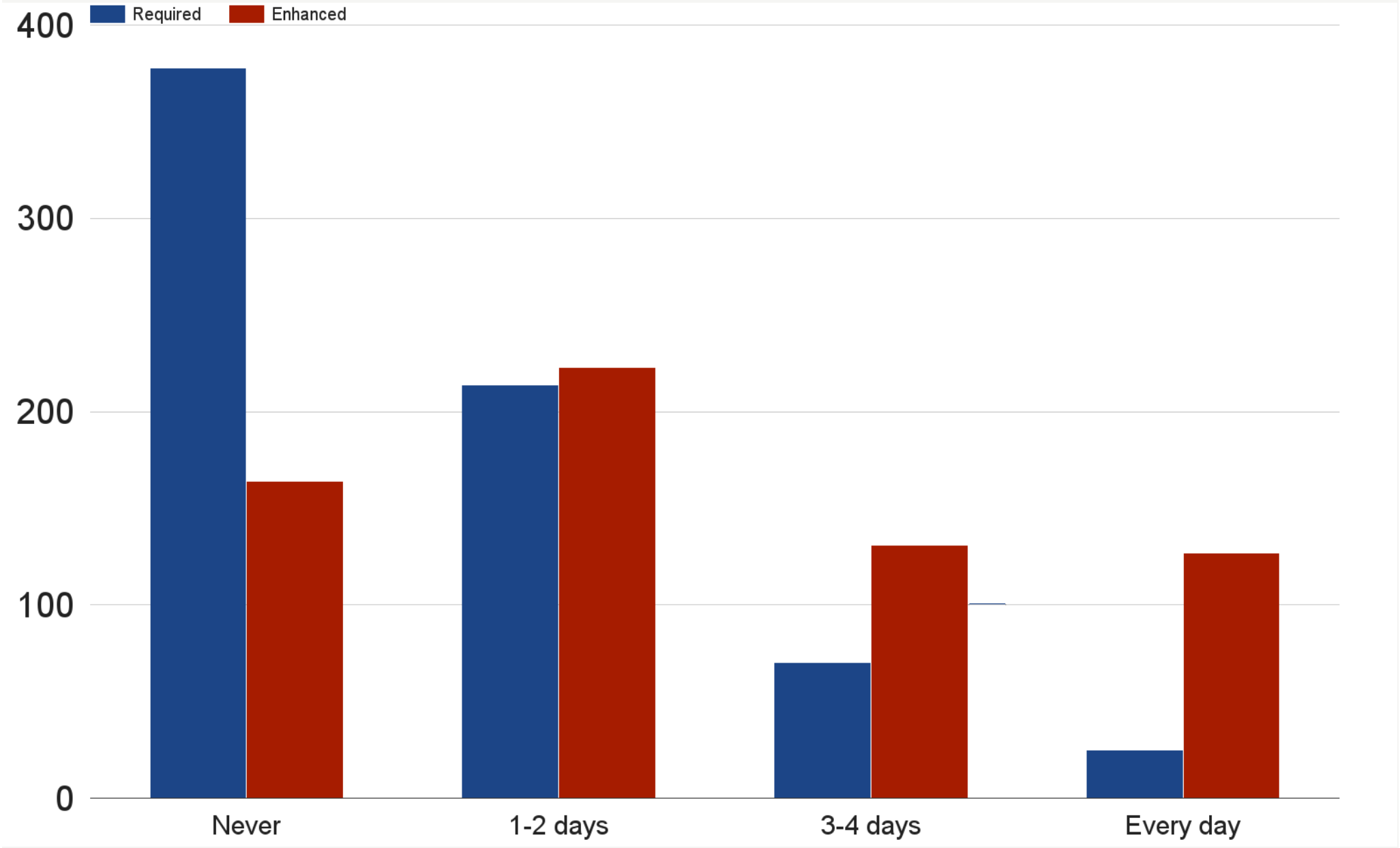
Would Like

Digital Tools Training Students Knew Able Ability Access Projects Limited Instruction iPads Makes Devices



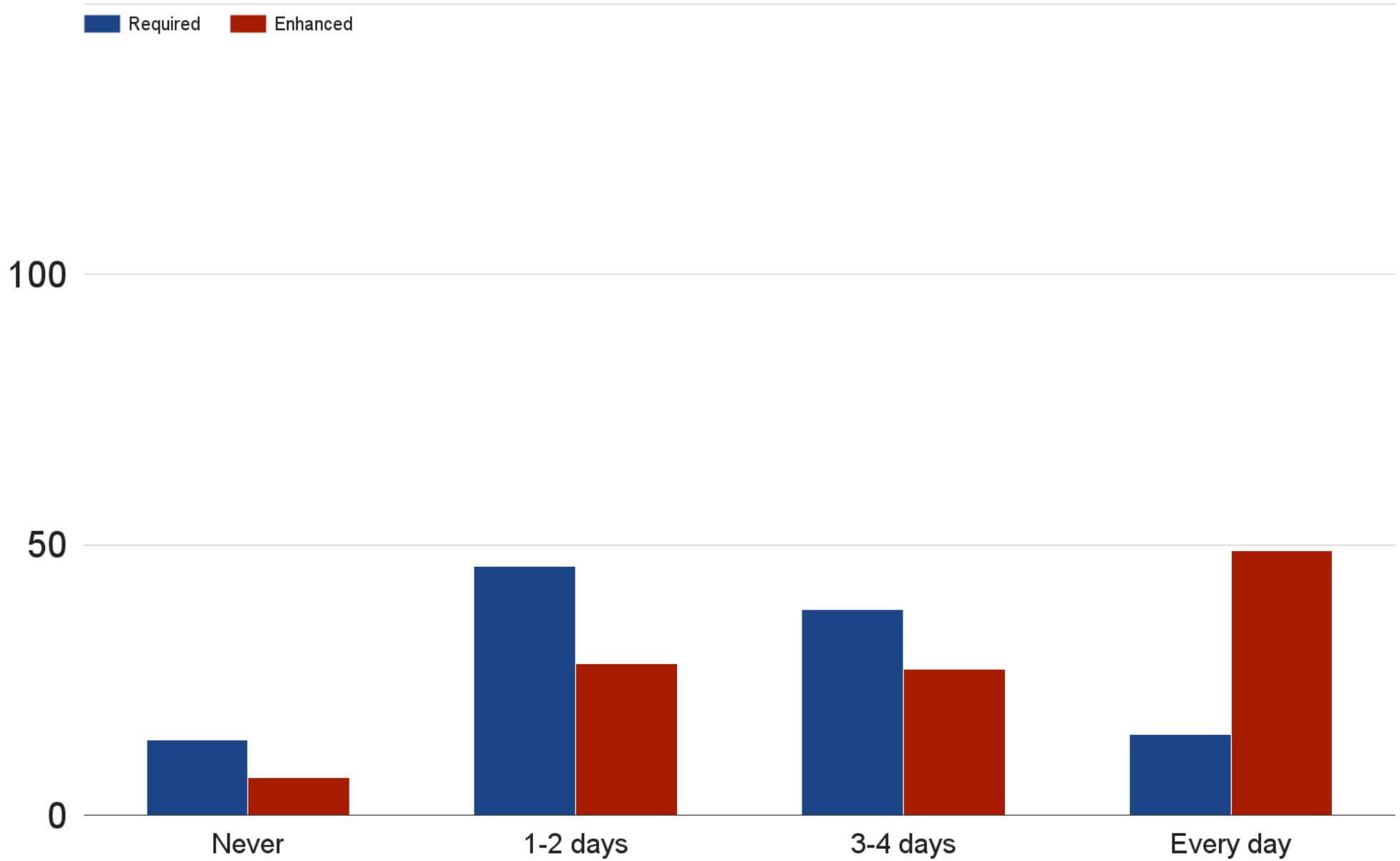
Q5: Elementary • Homework

How often do you assign homework that could be enhanced by digital tools



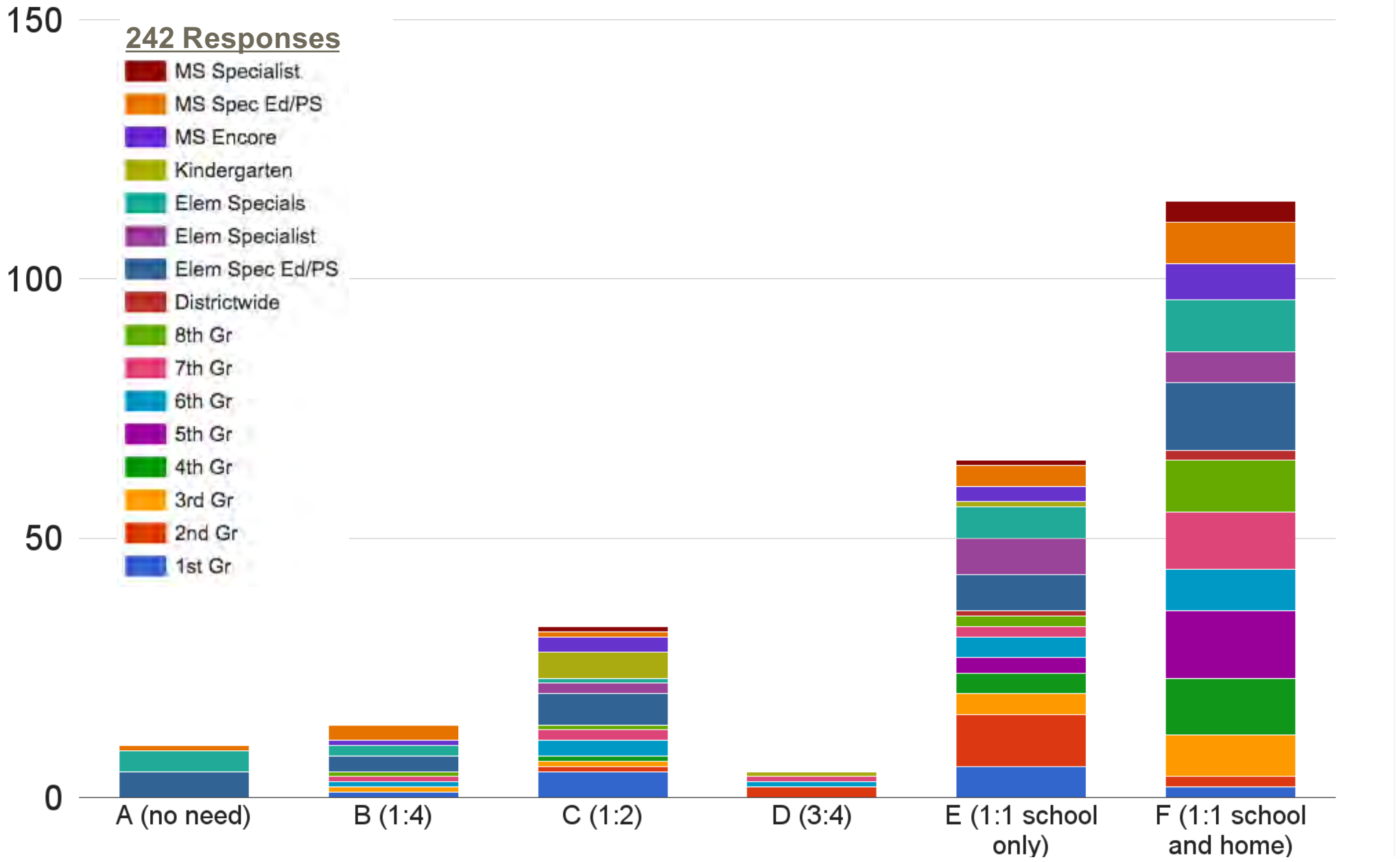
Q5: Middle School • Homework

How often do you assign homework that could be enhanced by digital tools



Q14: All • Best Meet Learning Standards

On a typical school day, I would BEST meet mandated learning standards with this level of access to devices:



Teacher Survey Q15: Open Response

Based on the Digital Learning Initiative belief statements, what else do you think decision makers need to know about implementation of a digital learning environment?

District 86 and Feeder Districts

Self-reported to DuPage County ROE Technology Coordinators Group

District	1:1 Grades
District 86	9-12 (BOE Approved)
Butler 53 Reported as of April 2015	K-8
Maercker 60 Reported as of October 2015	3-8
Darien 61 Reported as of February 2016	3, 7 (pilot)
Gower 62 Reported as of September 2015	K-8
Cass 63 Reported as of October 2014	Pre-K-8
Burr Ridge 180 Reported as of 2013	1,2,3,5,6

Investments to Achieve Belief Statements

Belief Statement	Curriculum Development	Measurement of Implementation	Professional Development	Devices	Instructional Technology Leader(s)	Infrastructure	HelpDesk Technicians	Student Data Privacy Guidelines	Other Hardware
1 Variety of Digital Tools	✓	✓	✓	✓	✓	✓	✓	✓	✓
2 Differentiation	✓	✓	✓	✓	✓	✓			
3 Digital skills	✓	✓	✓	✓	✓	✓			
4 Equity of Access	✓	✓	✓	✓	✓	✓	✓		✓
5 Professional Development	✓	✓	✓	✓	✓		✓	✓	
6 Planning	✓	✓	✓	✓	✓	✓	✓	✓	✓

DLI Grade Level Environment (From Staff Survey / Input)

Grade	Device Ratio	Notes
K	1:2	devices stay in classroom
1st	1:1	use at school only
2nd	1:1	use at school only
3rd	1:1	transition year *('school only' to 'school and home')*
4th	1:1	school and home
5th	1:1	school and home
6th	1:1	school and home
7th	1:1	school and home
8th	1:1	school and home

Considerations for Devices in the Digital Learning Environment

- District Finances
- Device Costs and Funding Options
  - Lease / Purchase / Partial or Full Fee Based Model
- Device Reliability & Total Cost of Ownership
  (Diamond Assets analysis posted to BoardDocs)
- Device Functionality
- Current Teacher Capacity
- Staffing
- Device Management / Deployment / Tech Support
  (Access/Classroom Controls)
  http://www.apple.com/education/products/#ipad-assistant
- Curriculum Renewal Cycles
- Tech Skills Map Development
- Student Supervision
  - Screen Time
  - Teacher Controls of Student Device
- Parent Education
- Student Needs
  - Some students have been using robust devices that allow creation of rich content
  - We do not want to take steps backward

Digital Learning Environment (end goals – multi-year implementation)

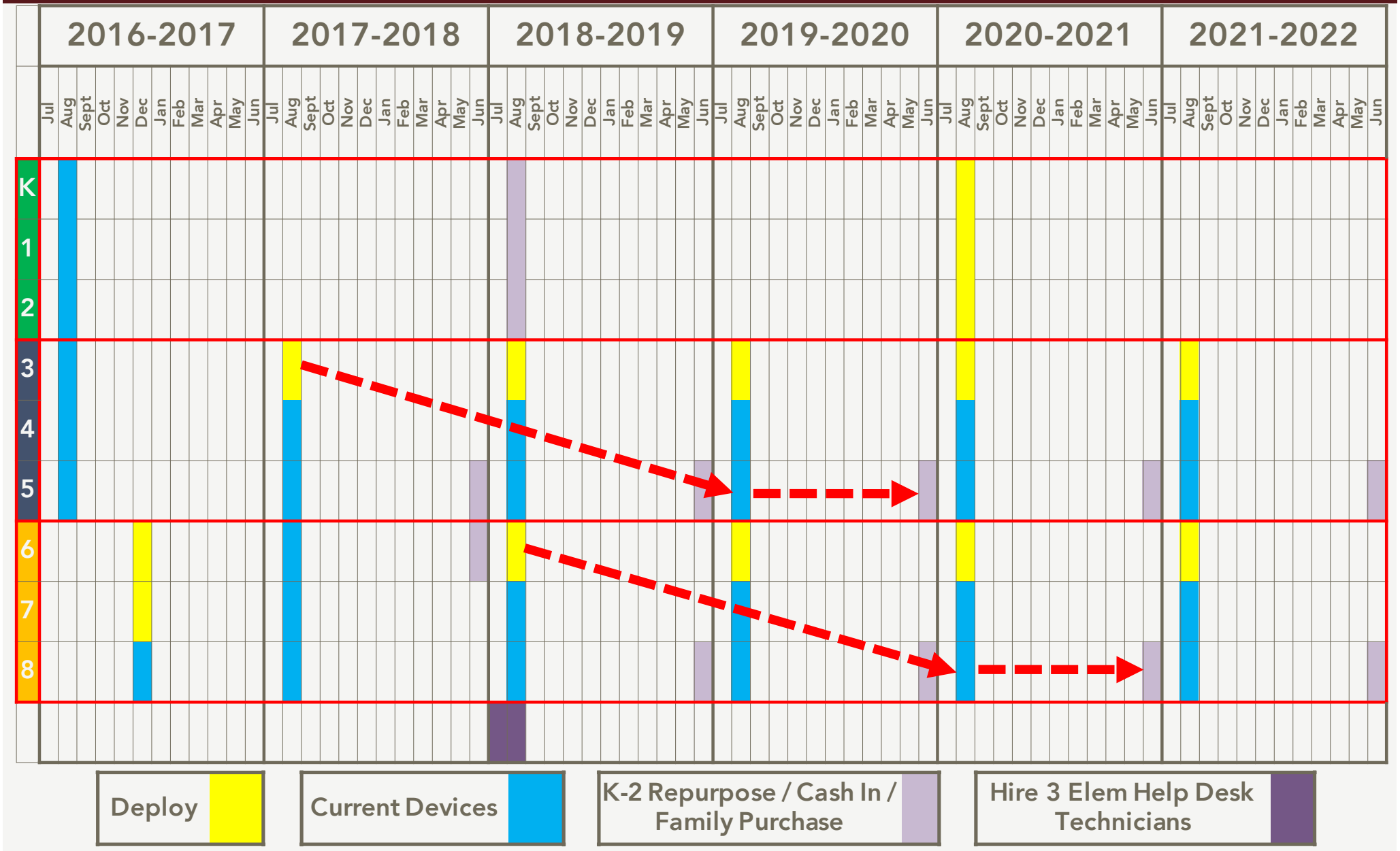
*K-2 Shared Ratio = school's highest K-2 single grade enrollment + staff +5% for testing purposes.

Grade	Device Ratio	Notes
K*	shared	deployment determined by school
1st*	shared	deployment determined by school
2nd*	shared	deployment determined by school
3rd	1:1	transition year ('school only' to 'school and home')
4th	1:1	school and home
5th	1:1	school and home
6th	1:1	school and home
7th	1:1	school and home
8th	1:1	school and home

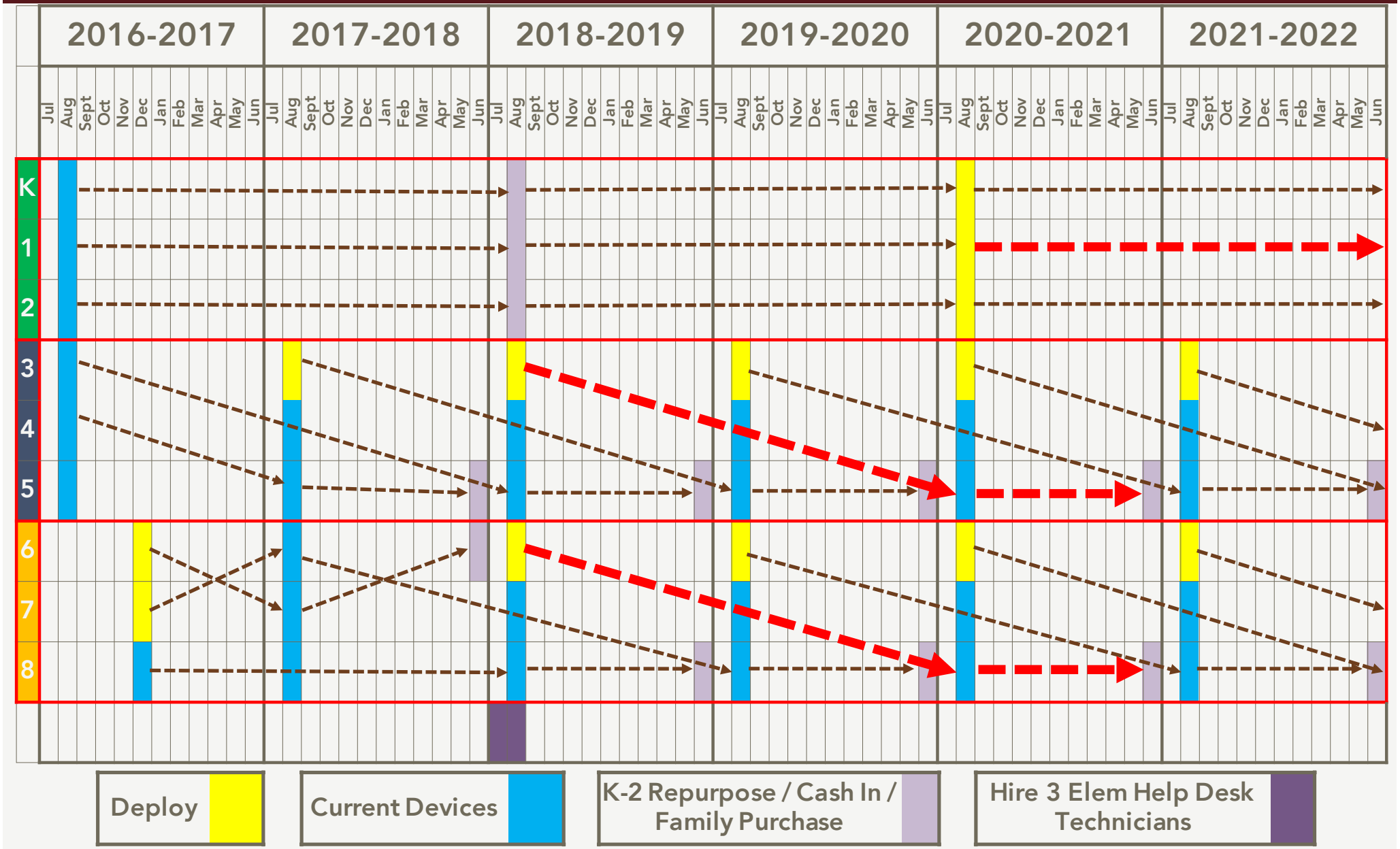
Considerations and Device Capacity

Consideration	iPad Pro	iPad Air	Chromebook	MacBook Air
Device Cost	✓ ($540)	✓ ($440)	✓ ($380)	($850)
Keyboard & Case	$65	$65	$0	$0
Device Durability	✓	✓	✓	✓
Projected Trade-In Value	✓ ($190)	✓ ($160)	$0	✓ ($350)
Teacher Control of Device and Student Supervision (e.g., screen time, site control, app control, etc.) http://www.apple.com/education/products/#ipad-assistant	✓	✓		✓ (+$50/device)
Ability to Adapt to Growing Tech Skills (device capacity)	✓	✓		✓
Ability to Meet Varying Staff Capacity / Readiness (device capacity)	✓	✓		✓
Compatibility with Current Hardware and Software (e.g. projectors, apps, etc.)	✓	✓		✓

Deployment Calendar



Deployment Calendar



Deployment Costs – iPad Air
(Student and Staff Devices)

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
K-2					$213,400 485 devices	
3		$198,440 451 devices	$204,160 464 devices	$209,440 476 devices	$215,160 489 devices	$220,440 501 devices
4						
5						
6	$223,520 508 devices		$233,640 531 devices	$238,480 542 devices	$243,760 554 devices	$248,600 565 devices
7	$221,320 503 devices					
8						
Staff	$50,160 114 devices	$62,920 143 devices	$9,240 21 devices	$17,160 39 devices	$134,640 306 devices	$9,240 21 devices
Subtotal*	$495,000 1,125 devices	$261,360 594 devices	$447,040 1,016 devices	$465,080 1,057 devices	$806,960 1,834 devices	$478,280 1,087 devices
Student Keyboards	$65,715	$29,315	$64,675	$66,170	$67,535	$69,290
Market Value**					($57,024)	($97,536)
Lease 1	$173,250	$173,250	$173,250			
Lease 2		$91,476	$91,476	$91,476		
Lease 3			$156,464	$156,420	$156,420	
Lease 4				$162,778	$162,778	$162,778
Lease 5					$282,436	$282,436
Lease 6						$167,398
Lease Total	$173,250	$264,726	$421,190	$410,674	$601,634	$612,612
Total Cost	$238,965	$294,041	$485,865	$476,844	$612,145	$584,366

*Device #s include 5% spare / Per iPad cost $440 --- **60% devices remarketed (could be higher)

Deployment Costs – Chromebook

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
K-2 (iPads)					$213,400 485 devices	
3 (iPads)		$198,440 451 devices	$204,160 464 devices	$209,440 476 devices	$215,160 489 devices	$220,440 501 devices
4 (iPads)						
5 (iPads)						
6 (Chromebooks)	$193,040 508 devices		$201,780 531 devices	$205,960 542 devices	$210,520 554 devices	$214,700 565 devices
7	$191,140 503 devices					
8						
Staff (K-5 iPads)		$62,920 143 devices	$9,240 21 devices	$17,160 39 devices	$84,920 193 devices	$9,240 21 devices
Subtotal*	$384,180 1,011 devices	$261,360 594 devices	$415,180 1,016 devices	$432,560 1,057 devices	$724,000 1,721 devices	$444,380 1,087 devices
Student Keyboards		$29,315	$30,160	$30,940	$31,785	$32,565
iPad Market Value**					($57,024)	($46,560)
Lease 1 (Chromebooks)	$134,463	$134,463	$134,463			
Lease 2 (iPads)		$91,476	$91,476	$91,476		
Lease 3 (iPads)			$74,690	$74,690	$74,690	
Lease 4 (Chromebooks)			$70,623	$70,623	$70,623	
Lease 5 (iPads)				$79,310	$79,310	$79,310
Lease 6 (Chromebooks)				$72,086	$72,086	$72,086
Lease 7 (iPads)					$179,718	$179,718
Lease 8 (Chromebooks)					$73,682	$73,682
Lease 9 (iPads)						$80,388
Lease 10						$75,145
Lease Total	$134,463	$225,939	$371,252	$388,185	$550,109	$560,329
Total	$134,463	$255,254	$401,412	$419,125	$524,870	$546,334

*Device #s include 5% spare / Per iPad cost $440 / Per Chromebook cost $380 --- **60% devices remarketed (could be higher)

Next Steps

- Develop Final Recommendation
  - Brief Presentation, Discussion, and Final Recommendation to Board
  - June 27, 2016
- Strategic Planning Activities
  - Curriculum Renewal Cycles
  - Parent Education
  - App Review Process
    (student data security and district support)
  - Tech Skills Map Development
    - Development – 2016-17
    - Implementation – 2017-18

Thank You