

Kansas Science Teacher Survey 2024



For
FHSU College of Education

By
**The Docking Institute of Public Affairs
Fort Hays State University**

Copyright © May 2024

Brett Zollinger, Ph.D.
Director

Jian Sun, Ph.D.
Assistant Director

Michael S. Walker, M.S.
Research Scholar

Marisa M. Johnson, M.B.A.
Administrative Specialist

Leslie Watson-Divittore, M.S.
Research Coord. Admin. Specialist

Mission:

To facilitate effective public policy decision-making among governmental and nonprofit entities



Docking Institute of Public Affairs
Fort Hays State University
600 Park Street
Hays, Kansas 67601-4099
Telephone: (785) 628-4197
www.fhsu.edu/docking



Kansas Science Teacher Survey 2024

Prepared By:

Michael S. Walker
Docking Institute of Public Affairs
Fort Hays State University
Hays, Kansas 67601
mswalker@fhsu.edu
(785) 628-5563

Copyright © May 2024
All Rights Reserved

Contents

Executive Summary	1
Methods	2
Survey Responses.....	3
Figure QINTRO: Will you participate in the Survey? (n=107).....	3
Table Q1 Series: Number of Years Teaching	4
Figure Q2: Familiarity with Kansas Science Standards (n=107)	4
Figure Q3a: How often do your students do each of the following in your science class(es?)	5
Figure Q3b: How often do your students do each of the following in your science class(es?) (Continued).....	5
Figure Q4 Series: For what PERCENTAGE of your students are the following statements true?.....	6
Figure Q5 Series: To what extent are the following a priority for your science teaching?.....	7
Figure Q6 Series: How often do the following occur in your science classes?	8
Figure Q7 Series: What instructional materials do you currently use in science instruction? (Select all that apply)	9
Table Q7: Other Instructional Material	10
Figure Q8: How closely are your science instructional materials aligned to Kansas Science Standards? (n=96).....	11
Table Q9: What do you most enjoy about teaching in a rural community?.....	12
Table Q10: What is unique about your school community?.....	12
Table Q11: What specific challenges do you face as a science teacher at your school?	13
Figure Q12: How much of your professional learning has been science specific? (n=92).....	14
Figure Q13 Series: Within the last three years, how much professional learning have you had in the following areas? ...	15
Figure Q14 Series: What were the sources of that professional learning? (Select all that apply.) (n=92).....	16
Table Q14: Other Source of Professional Learning	17
Figure Q15 Series: Which professional learning were MOST influential? (Choose up to 3.) (n=88)	18

Table Q15: Other Most Influential Professional Learning.....	19
Figure Q16 Series: To what extent do you agree with the following statements?.....	20
Figure Q17 Series: When does school-provided professional learning usually occur? (Select all that apply.) (n=90).....	21
Table Q17: Other Professional Learning Timeframe.....	21
Figure Q18 Series: When does other professional learning (not provided by the school) usually occur? (Select all that apply.) (n=90).....	22
Figure Q19 Series: When do you prefer non-school provided professional learning? (Select all that apply.) (n=90)	23
Figure Q20: How comfortable are you with participating in virtual professional learning? (n=90).....	24
Figure Q21 Series: With which virtual tools are you experienced AND comfortable using? (Select all that apply.) (n=90)	24
Figure Q22 Series: At home, I do NOT have access to (select all that apply.) (n=26)	25
Figure Q23 Series: At work, I do NOT have access to (select all that apply.) (n=22)	25
Figure Q24: Do you have any additional technology concerns that may hinder your participation in PL? (n=87).....	26
Table Q24: Additional Technology Concerns “Yes” response follow-up	26
Table Q25: In which school do you teach?.....	27
Table Q26: What is the name of your school district.....	29
Figure Q27 Series: What grade levels are taught in your school? (Select all that apply.) (n=90).....	31
Figure Q28: What is the size of a typical graduating class at your school? (n=89).....	31
Figure Q29: Including yourself, how many teachers teach at least one secondary science class? (n=90).....	32
Figure Q30: Gender (n=90).....	32
Figure Q31: With which racial categories do you identify? (n=90).....	33
Figure Q32: What is your highest level of formal education? (n=90)	33
Table Q32: Other Highest Education Level.....	34
Figure Q33: Which of the following best describes the path you took to earn your teaching license? (n=90)	34

Table Q33 Other: Path to Teaching License	34
Figure Q34 Series: In what subjects are you endorsed to teach? (Select all that apply.) (n=90)	35
Table Q34: Other Endorsements.....	35
Figure Q35 Series: What grade levels are you teaching this year (2023-24)? (Select all that apply.) (n=90).....	36
Figure Q36: Do you teach any multi-grade classes? (n=87).....	37
Table Q37: Which grades are grouped together?.....	37
Figure Q38 Series: What courses do you teach? (Select all that apply.) (n=90)	39
Table Q38: Other Courses Taught	40
Figure Q39 Series: Are you fully certified, provisionally or emergency certified, or not certified to teach those course? .	41
Table Q39: Other Courses Certified to Teach.....	42
Figure Q40: Do you teach any non-science courses? (n=88)	43
Figure Q41: During your own K-12 education, did you attend a rural school? (n=90).....	43
Figures Q42 & Q44: “Would you like to be included in the drawing” (n=90)? If YES, “Do we have permission to contact you?” (n=80).....	44
Appendix I: Original Qualitative Responses.....	45
Question 7 Other: Instructional Materials	45
Question 9: What do you most enjoy about teaching in a rural community?.....	46
Question 10: What is unique about your school community that is important for us to know about when designing science professional learning to serve your needs?	49
Question 11: What specific challenges do you face as a science teacher at your school?.....	52
Question 14 Other: Sources of Professional Learning	56
Question 15 Other: Most Influential Professional Learning.....	57
Question 17 Other: When does school-provided professional learning usually occur?.....	58

Question 24 Other: Additional Technology Concerns.....	58
Question 25 What school do you teach in?	58
Question 26 Name of your district:	58
Question 30 Other: Gender	58
Question 31 Other: Racial Categories	58
Question 32 Other: Highest Level of Education	58
Question 33 Other: Path to Teaching License.....	59
Question 34 Other: Courses Endorsed to Teach	59
Question 37 Other: Grouped Grade Levels.....	59
Question 38 Other: Courses Currently Taught.....	62
Question 39 Other: Courses Certified to Teach	63
Question 40 Other: Non-Science Courses Taught.....	63
Appendix II: Invitation Email.....	65
Appendix III: Online Survey Instrument.....	66

Executive Summary

- The Docking Institute conducted an online survey of Kansas secondary science teachers in the spring of 2024. The sample size was 511 and 107 teachers completed the survey, yielding a response rate of 20.94%.
- The mean average number of years teaching science was 18.4, while the median was 19 years.
- 48% of the teachers surveyed were “very familiar” with Kansas Science Standards, and 44% were “familiar” with the standards.
- 22% of the teachers reported that their students “explain the reasoning behind an idea” in “every class,” while 52% reported that their students do the same in “most classes.”
- 32% of the teachers reported that “almost all” of their students “are engaged in the activities we do during science class,” while 60% reported that “most” of their students do the same.
- 81% of the teachers reported that “having my students understand the big ideas of science” is a “high priority.” 18% reported that this is a “moderate priority.”
- 54% help students figure out things on their own rather than giving them the answers “daily,” while 23% do the same “every few days.”
- 67% “write [their] own curriculum” and 31% used “modeling instruction for physics and/or chemistry.”
- 35% of the teachers have all of their materials aligned with Kansas Science Standards, while 51% have materials “mostly aligned.”
- When asked what they “most enjoy about teaching in a rural community,” 22% reported “connections with students.” 17% reported “connections with the community.” 26% replied that they do not live in a rural community.
- When asked “what is unique about your school community that is important for us to know about when designing science professional learning to serve your needs,” 13% reported that “more teaching tools/resources were needed.” 13% also reported that the “teaching of science lacks support/knowledge of science & math is lacking.”
- When asked “what specific challenges do you face as a science teacher at your school,” 29% said “apathetic students or parents/lack of interest in academics,” 25% said that they lack resources, and 16% said they lack planning time.
- When asked “how much professional learning” they have had in “social emotional learning,” 44% said “a lot” and 39% said “some.” When asked about professional learning about “classroom technology,” 18% said “a lot” and 41% said “some.”
- 82% reported that their district provides most of the professional learning opportunities, followed by their school (68%).
- 41% felt that the most influential professional learning opportunities addressed “classroom technology.” The next most influential topic (40%) addressed “science instruction.”

- 57% of the teachers “completely agreed” that they “enjoy opportunities to develop their professional and classroom practices,” while another 37% “somewhat agreed.”
- 58% reported that “most of their professional learning opportunities” occur during “the summer,” while 42% reported that they are available “during the school day.”
- 46% are “comfortable” with “virtual professional learning,” while 37% are “somewhat comfortable.”
- 86% said they are comfortable using Google Docs. 81% said they are comfortable using Google Forms. 79% said they are comfortable using Google Slides.
- When asked about professional learning at home and at the workplace, only 10% of those at home do NOT have a microphone and camera. Only 6% percent report the same about the workplace.
- When asked for the typical graduating class size at their school, 19% said 300 students or more, 26% said 150-299 students, 22% said 60-149, 25% said 20-59, and 8% said less than 20.
- More than half (56%) of the respondents identify as female, 42% identify as male, 86% are white/Caucasian, and 75% hold master’s degrees.
- 70% reported that they obtained their teaching license through a traditional program. 14% said they obtained their license through a post-baccalaureate program. 9% said T2T.
- When asked what subjects they are endorsed to teach, 68% said chemistry, 60% said biology, and 45% said physics.
- When asked what grade levels they are teaching in this year (2023-2024), 91% said 10th grade, 87% said 12th grade, 78% said 9th grade, and 70% said college credit/dual enrollment.
- 85% reported that they teach multi-grade classes. Of those who do, 28% teach 10, 11, 12 classes and 25% teach 11, 12 classes.
- When asked what courses they teach, 48% said high school chemistry, 40% said high school biology, 39% said high school physics, and 39% said high school physical science.
- Few teachers reported teaching classes for which they are not certified to teach.
- 25% teach non-science courses.
- 66% attended a rural high school during their own K-12 educations.

Methods

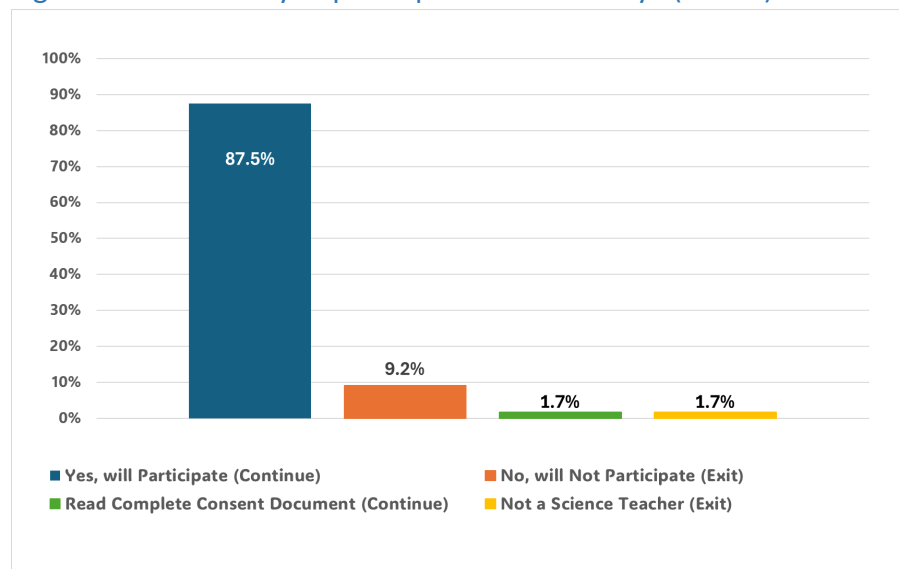
In the spring of 2024, the Docking Institute of Public Affairs conducted an online survey of Kansas secondary school science teachers for FHSU’s College of Education. The College provided the Institute with a questionnaire and a list of 534 science teachers. Institute

researchers programmed Qualtrics for surveying, uploading the questionnaire and sample. The Institute sent requests to complete the survey by email on April 4th, 8th, 17th, and 23rd. The list contained one duplicated email address, and 22 emails were determined to be undeliverable. The sample size was 511 (534-22-1) and 120 teachers began the survey. Eleven teachers declined to participate and two were non-science teachers. As such, 107 teachers participated in the study, providing a response rate of 20.94% (107/511*100). The first completed questionnaire was submitted on April 4th and the last was submitted on May 1st.

Survey Responses

The figures and tables below show each question and topic addressed in the survey. Figure and table numbers align with survey question numbers. Appendix III provides the survey questions and response options. In most cases, qualitative responses are collapsed into categories (original responses are shown in Appendix I).

Figure QINTRO: Will you participate in the Survey? (n=107)



The figure shows that two respondents opted to read the consent statement before agreeing to complete the survey. Two others indicated that they were not science teachers. Eleven (or about 9%) declined to participate in the survey.

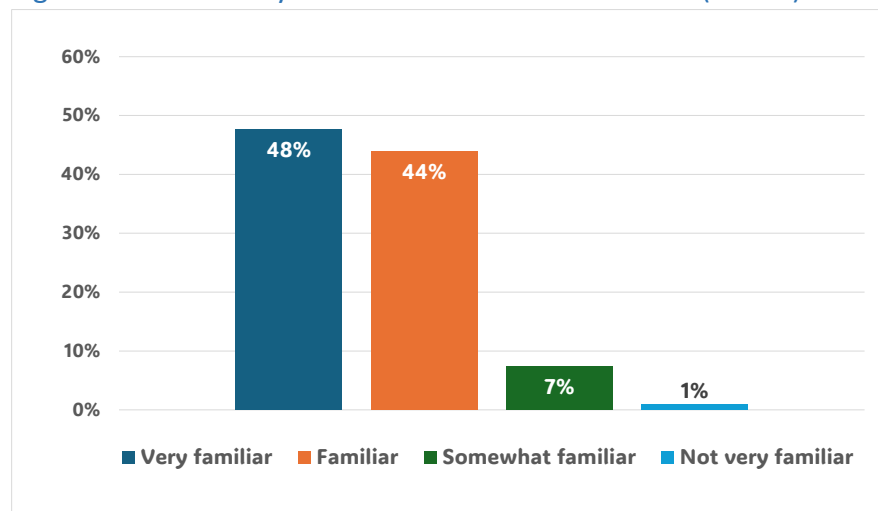
Respondents were asked for the number of years they had been teaching at their current school, years teaching overall, and years teaching science. Table Q1 Series shows measures of central tendency and standard deviations for each question. The average number of years teaching overall and teaching science was almost 20, while teaching at the current school is roughly half that number. Hence, the average teacher moved to their current place of employment about 9 or 10 years ago.

Table Q1 Series: Number of Years Teaching

	Years Teaching at Current School	Years Teaching Overall	Years Teaching Science
Mean	11.7	19.8	18.4
Median	9.0	19.0	19.0
SD	8.0	10.4	10.1

Figure Q2 shows that 48% of the teachers are “very familiar” and 44% are “familiar” with the Kansas Science Standards. Seven percent are “somewhat familiar,” and only 1% is “not familiar” with the standards.

Figure Q2: Familiarity with Kansas Science Standards (n=107)



The following figures and tables do not include narrative, as questions and answers are provided in each figure and table. In addition, the client has been provided with the data set in SPSS and Excel formats, allowing for additional analysis.

Figure Q3a: How often do your students do each of the following in your science class(es?)

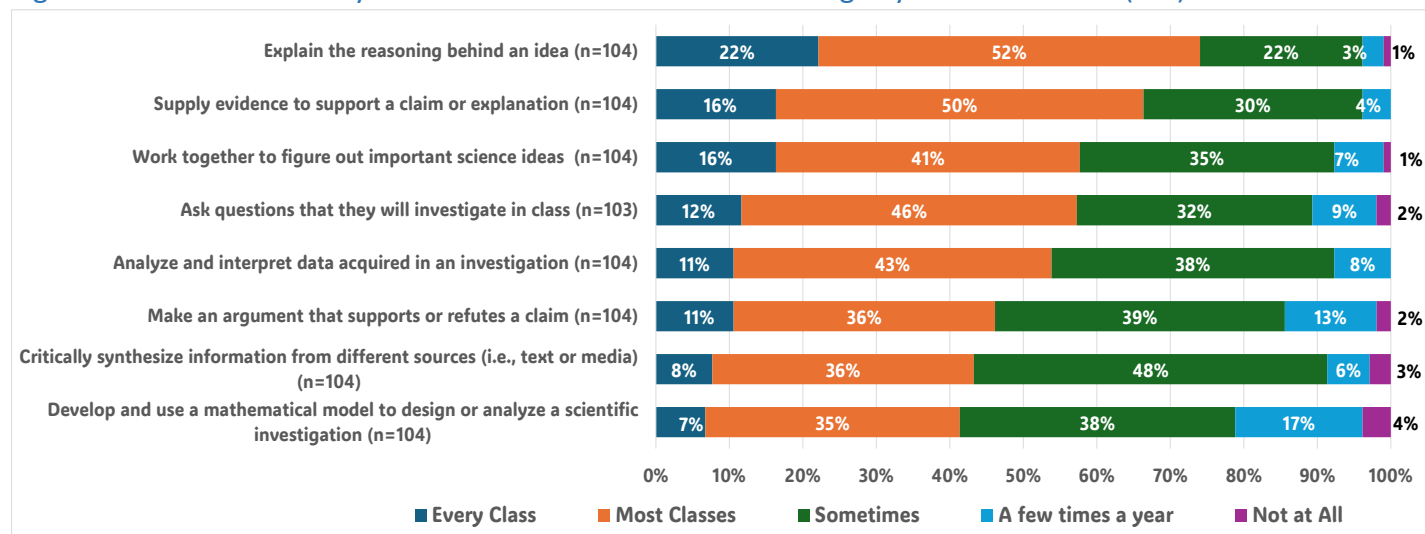


Figure Q3b: How often do your students do each of the following in your science class(es?) (Continued)

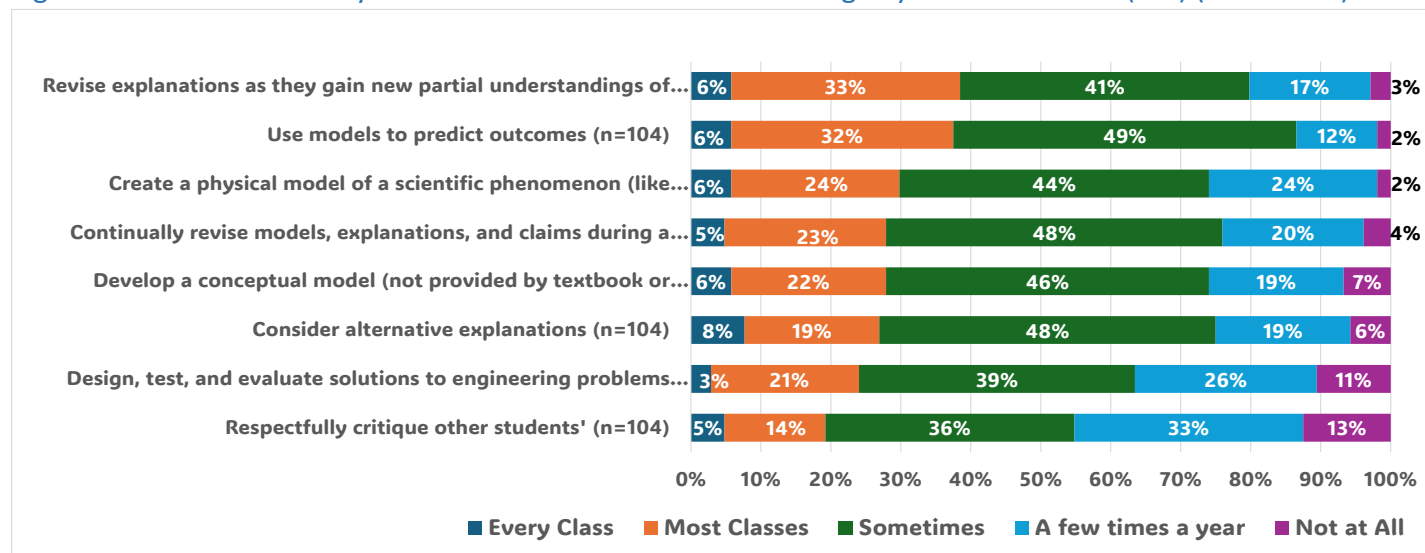


Figure Q4 Series: For what PERCENTAGE of your students are the following statements true?

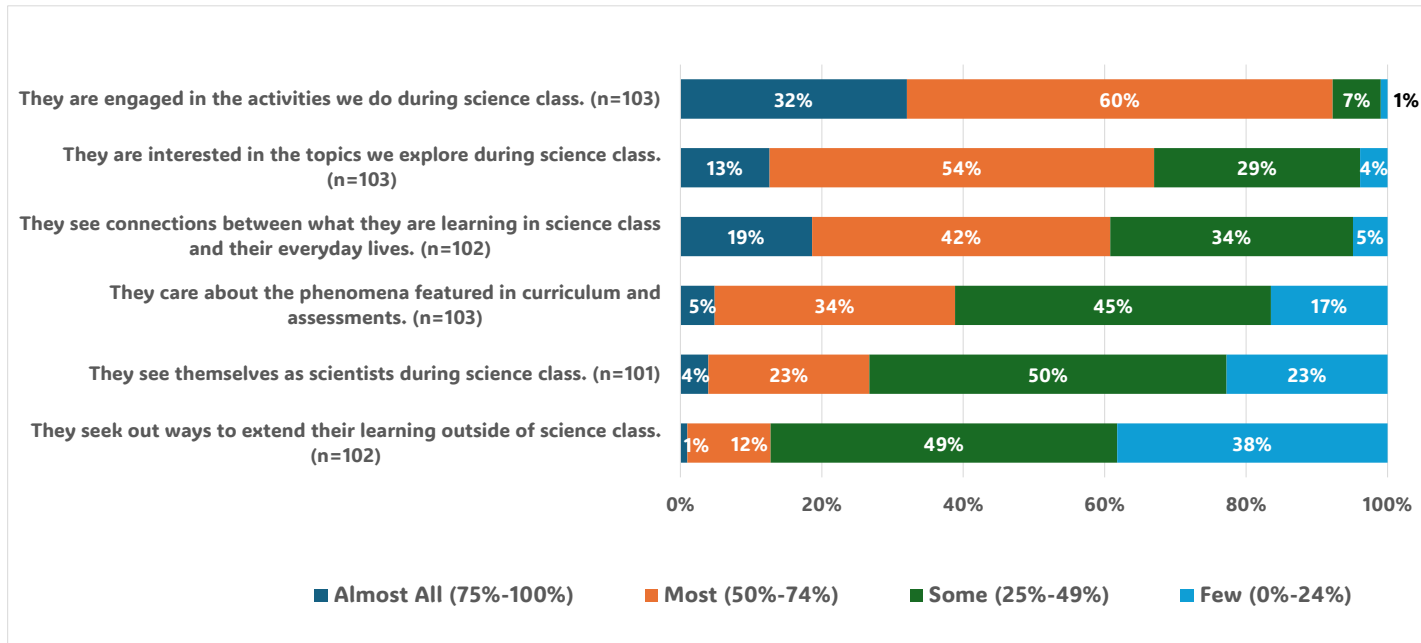


Figure Q5 Series: To what extent are the following a priority for your science teaching?

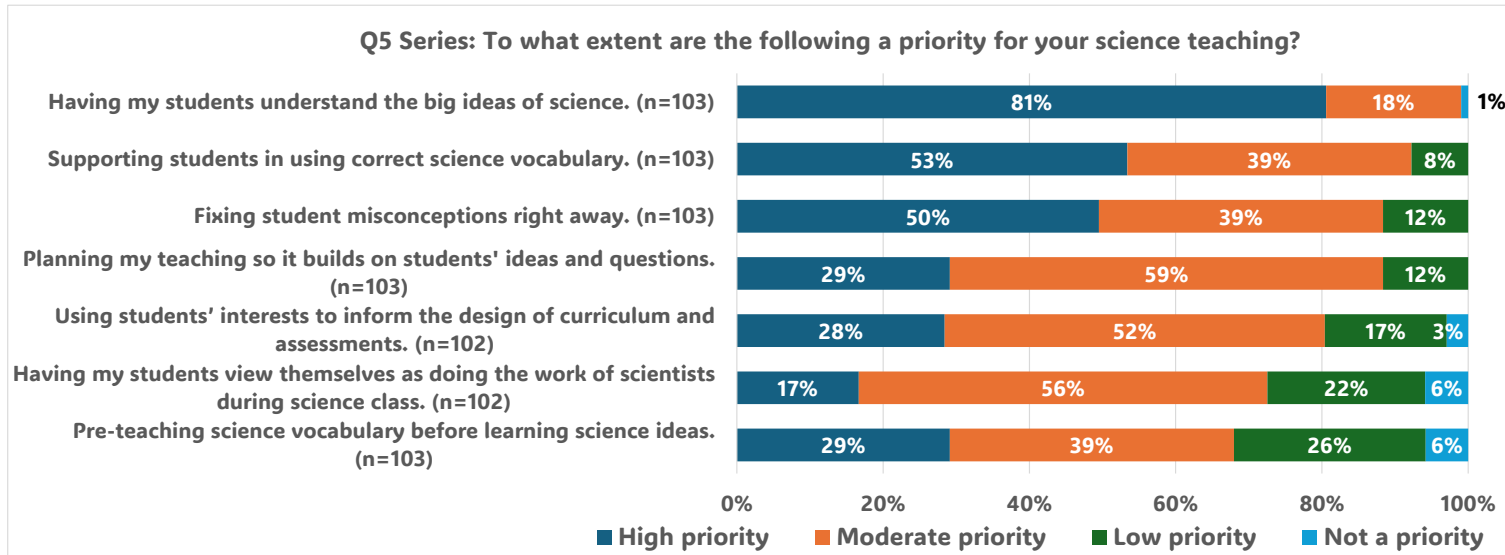


Figure Q6 Series: How often do the following occur in your science classes?

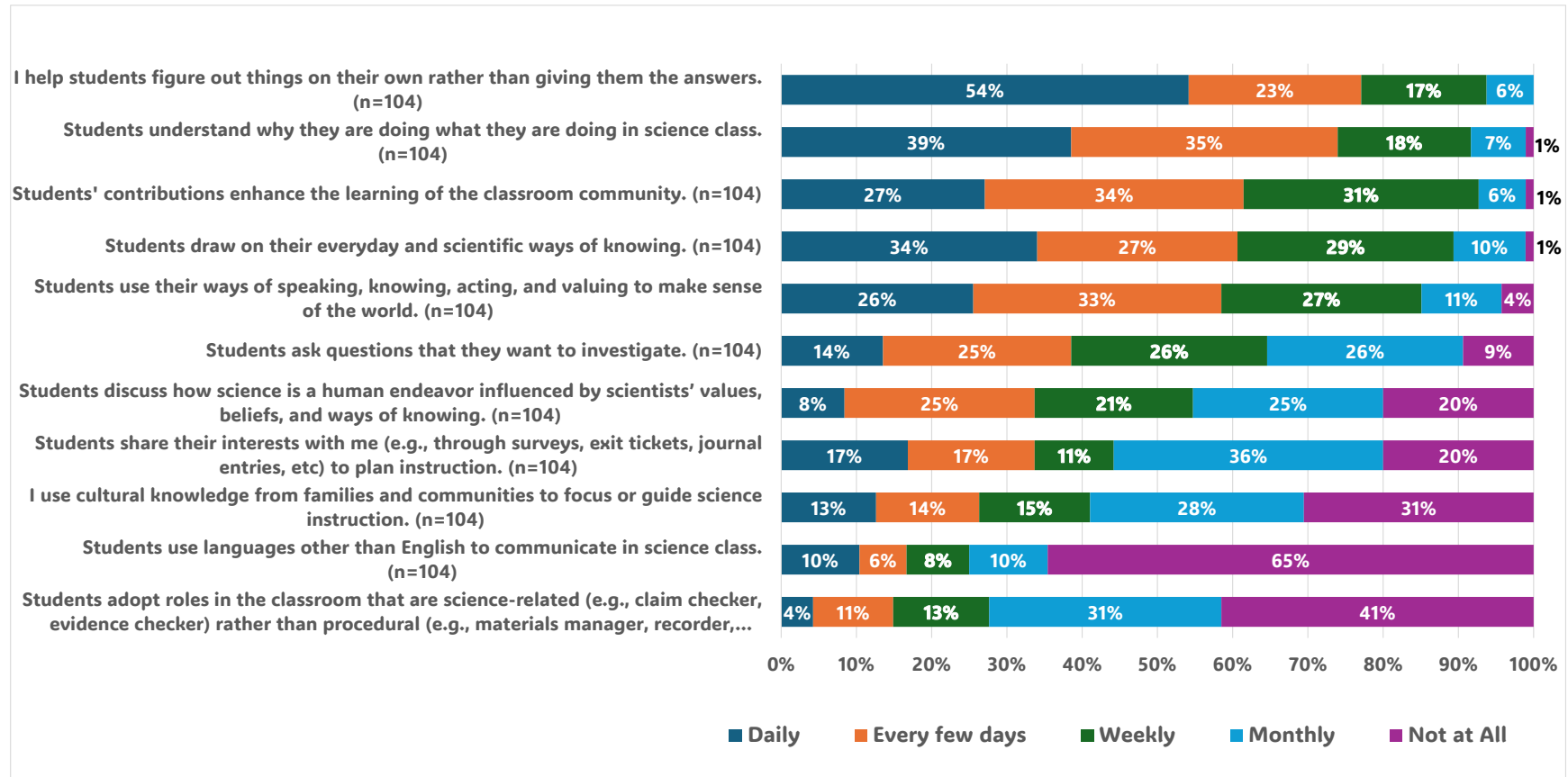


Figure Q7 Series: What instructional materials do you currently use in science instruction? (Select all that apply)

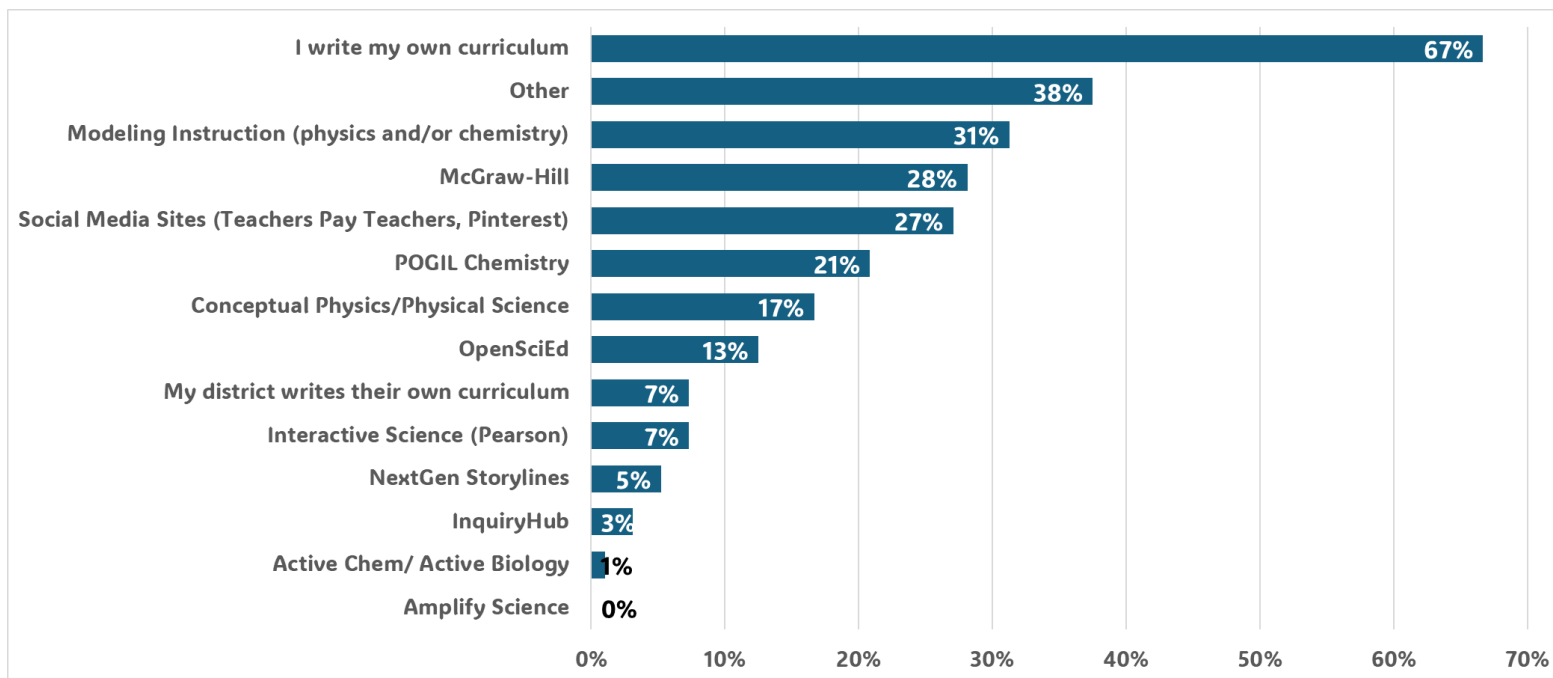


Table Q7: Other Instructional Material

Categories	Count	Percent
HMH	5	14%
Misc.	3	8%
SAVVAS	3	8%
Textbook	2	6%
AP Classroom	1	3%
APES PBL Curriculum	1	3%
Cengage Chemistry	1	3%
Chemfiesta Website	1	3%
Collaborate with other districts	1	3%
Discovery Education	1	3%
Facebook Teach Groups	1	3%
Holt Rinehart Winston	1	3%
Isaac Physics	1	3%
Lab Aids	1	3%
Mix of Sources	1	3%
Mosa Mack	1	3%
NGSS	1	3%
NY2 Special Education Science	1	3%
Pearson Chemistry and Physics	1	3%
Physics Classroom & PHET	1	3%
PLTW	1	3%
POGIL AP Chemistry	1	3%
Positive Physics	1	3%
Progress Learning	1	3%
Saxon	1	3%
Stemscope	1	3%
TPT	1	3%
TOTAL	36	100%

Figure Q8: How closely are your science instructional materials aligned to Kansas Science Standards? (n=96)

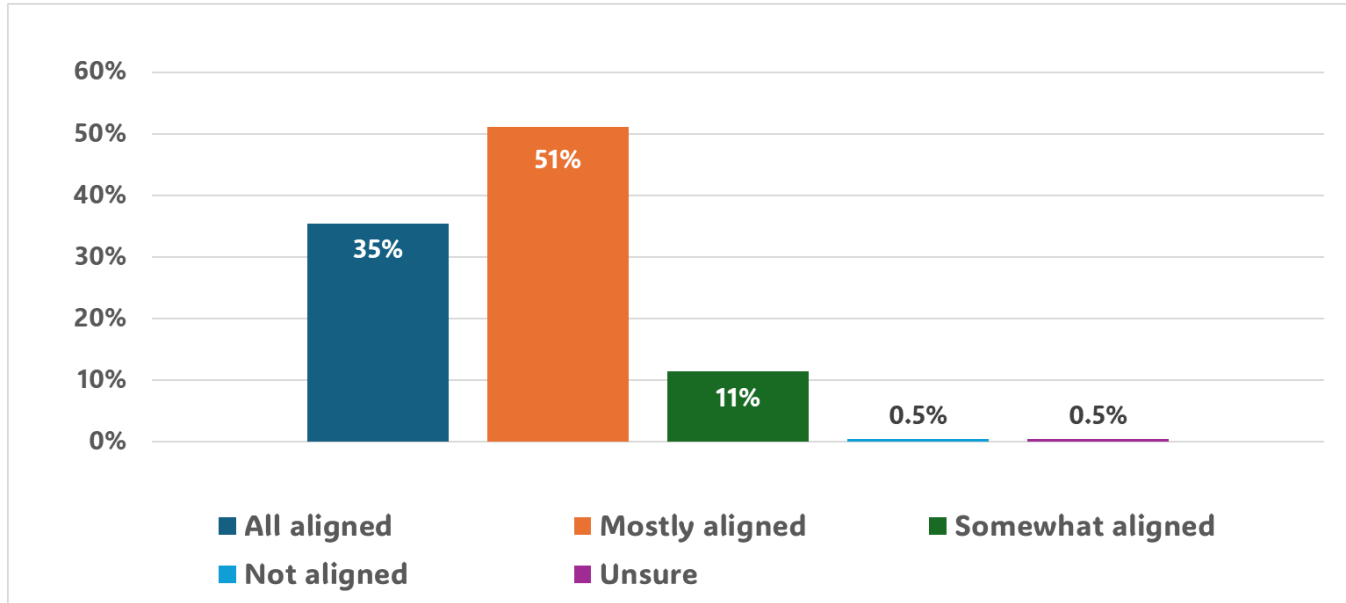


Table Q9: What do you most enjoy about teaching in a rural community?

Categories	Count	Percent
I do not teach in a rural Community	23	26%
Connections with Students	20	22%
Connections with the Community	15	17%
Smaller Classes	14	16%
Autonomy/Teaching a Variety of Classes	7	8%
Positive Work and Behavior Ethics	6	7%
Connections with families	3	3%
Better Pay	1	1%
I am retiring soon	1	1%
TOTAL	90	100%

Table Q10: What is unique about your school community?

Categories	Count	Percent
More teaching tools/resources needed (science tool, ESOL materials)	11	13%
Teaching of science lacks support/knowledge of science & math lacking	11	13%
Culturally diverse population	10	12%
Large percentage of low socioeconomic status families	10	12%
Teaching of science supported	8	10%
Few school science teachers in district/few support staff	5	6%
Not much/too much diversity	5	6%
Nothing/not unique	4	5%
Apathy among students	3	4%
Good community support	3	4%
Need more science training, PDs	3	4%
Small classes sizes/engaged students	3	4%
Too much focus on post-secondary preparation	2	2%
Declining Enrollment	1	1%
Four-day work week	1	1%
Lack of community/community support	1	1%
Students with trauma/lack stability	1	1%
TOTAL	82	100%

Table Q11: What specific challenges do you face as a science teacher at your school?

Categories	Count	Percent
Apathetic students or parents/lack of interest in academics	26	29%
Lack of resources	22	25%
Lack of planning time/too many preps	14	16%
Opposition to science/lack of interest in science	14	16%
Large class sizes/high teacher turnover	3	3%
Few science teachers/limited course options	2	2%
Lack of community support/business connections	2	2%
Changing demographics/lack of ESOL support	1	1%
Developing assignments/labs for distance learners	1	1%
Lack of Science PDs	1	1%
Low or declining enrollment	1	1%
Rural isolation	1	1%
Still recovering from COVID shutdown	1	1%
TOTAL	89	100%

Figure Q12: How much of your professional learning has been science specific? (n=92)

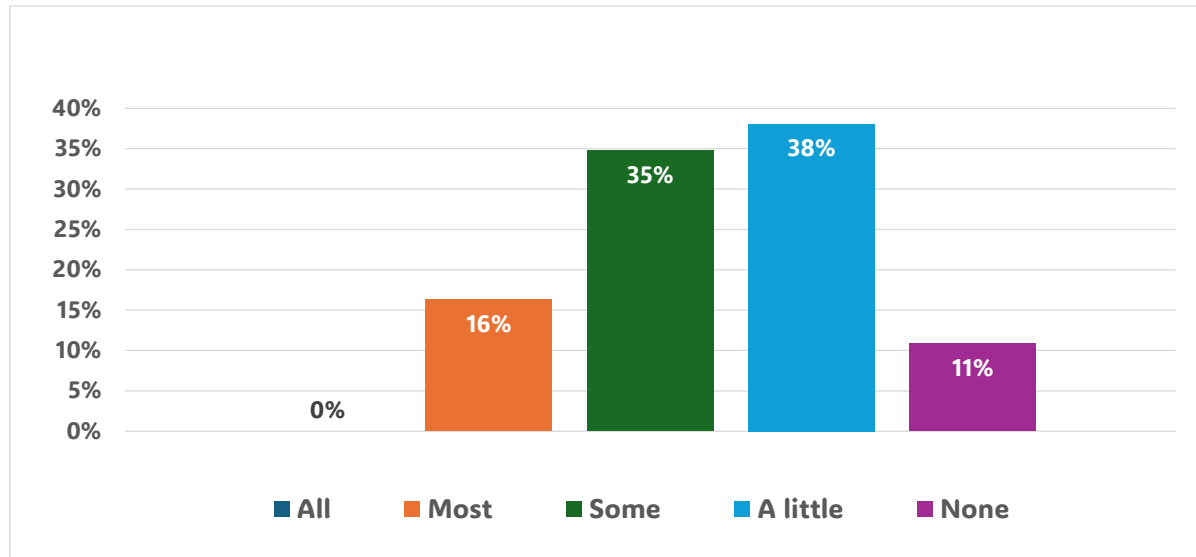


Figure Q13 Series: Within the last three years, how much professional learning have you had in the following areas?

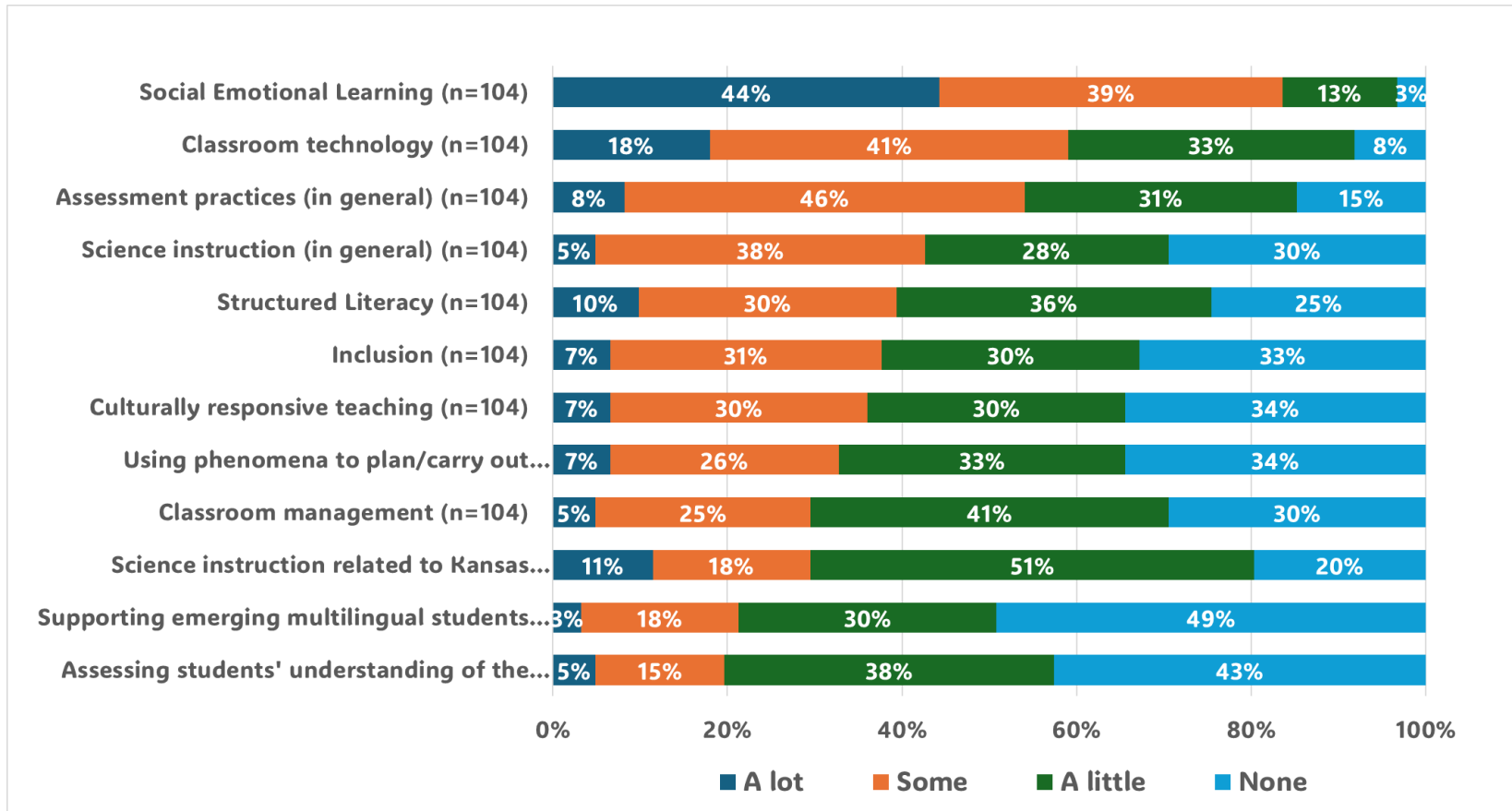


Figure Q14 Series: What were the sources of that professional learning? (Select all that apply.) (n=92)

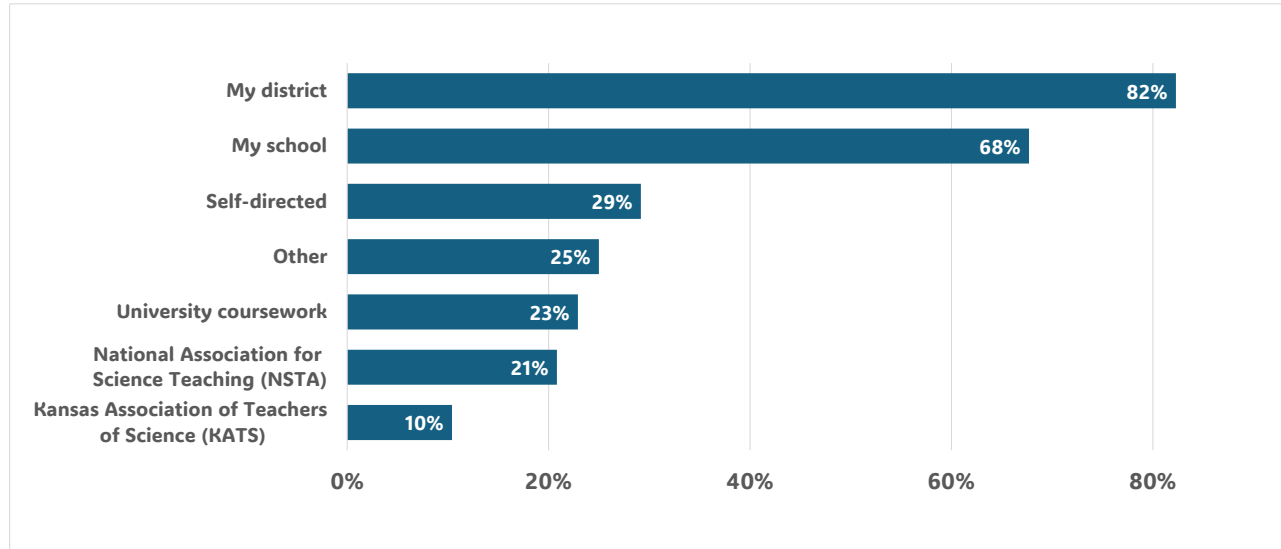


Table Q14: Other Source of Professional Learning

Categories	Count	Percent
KSDE	3	13%
Workshop	3	13%
Greenbush	2	9%
AVID	1	4%
College Board APSI	1	4%
CTE Pathways	1	4%
ESSDACK	1	4%
KABT	1	4%
Kansas Corn: Seed to Stem	1	4%
Master's Program	1	4%
NGOs	1	4%
Online Courses	1	4%
Orion	1	4%
Peer Interaction	1	4%
Personal Online Research	1	4%
SPED COOPS	1	4%
State Mandated Units	1	4%
STEM Training	1	4%
TOTAL	23	100%

Figure Q15 Series: Which professional learning were MOST influential? (Choose up to 3.) (n=88)

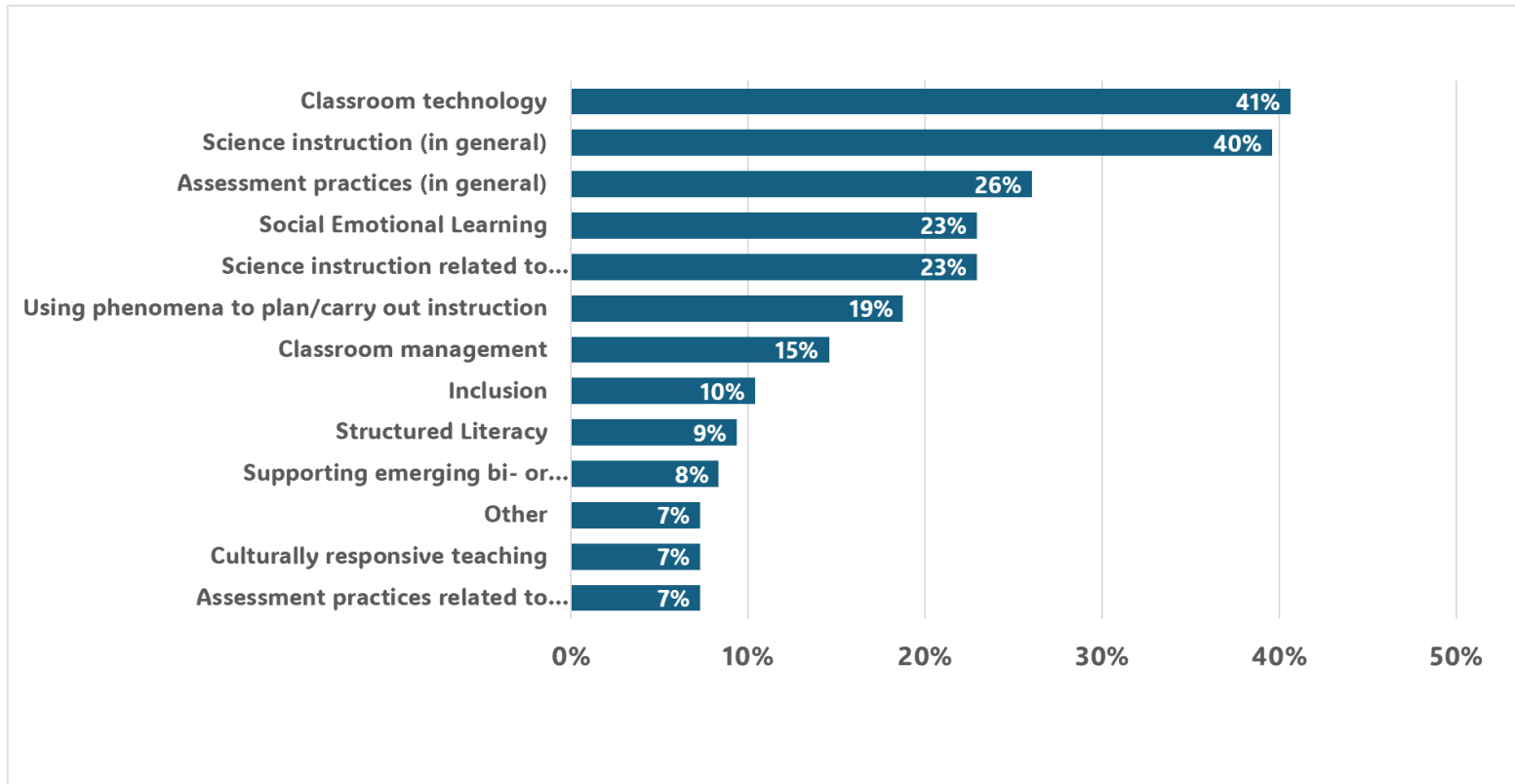


Table Q15: Other Most Influential Professional Learning

All Responses

Book study about Burn Out

CTE conference

I don't respond well to force and indoctrination, especially in areas that relate to personal politics and ideology. It isn't the business of the state or school district to force ideologies upon me or others. Threatening (essentially) us to accept things that are not borne out by science or research, accept things that are harmful to our students, and misuse the language of empathy to do it.

Little to none of our PD sessions have been beneficial to my classroom instruction or planning.

None. Most of the professional development is directed at elementary schools and practices and not transferrable to the high school level of instruction I am at

Open collaboration with other physics teachers

Session at NSTA in Kansas City

Figure Q16 Series: To what extent do you agree with the following statements?

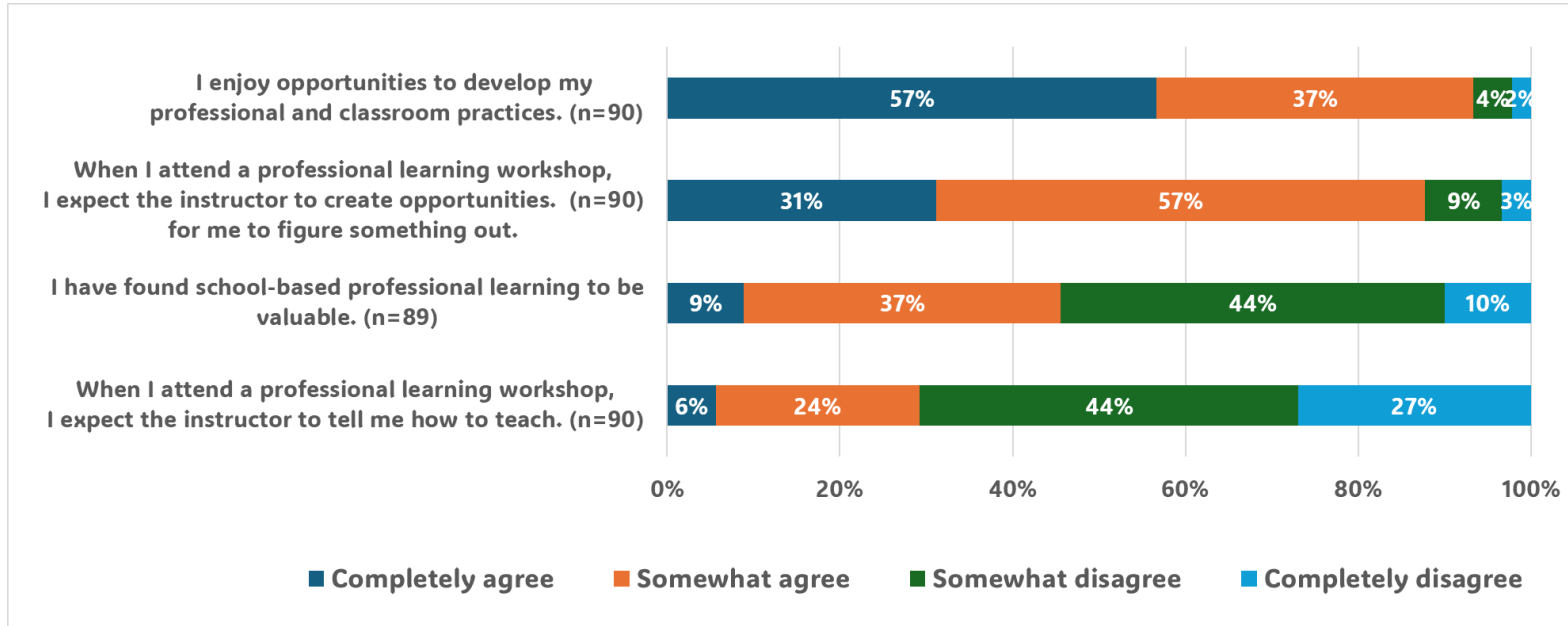


Figure Q17 Series: When does school-provided professional learning usually occur? (Select all that apply.) (n=90)

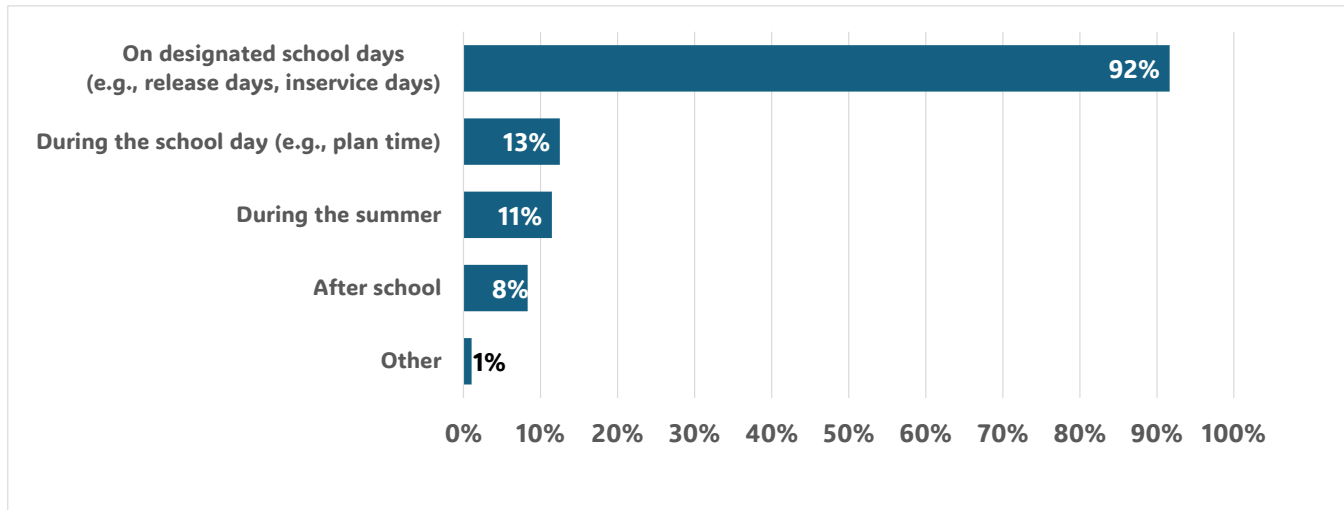


Table Q17: Other Professional Learning Timeframe

All Responses

PLC time every Wednesday for an hour

Figure Q18 Series: When does other professional learning (not provided by the school) usually occur? (Select all that apply.) (n=90)

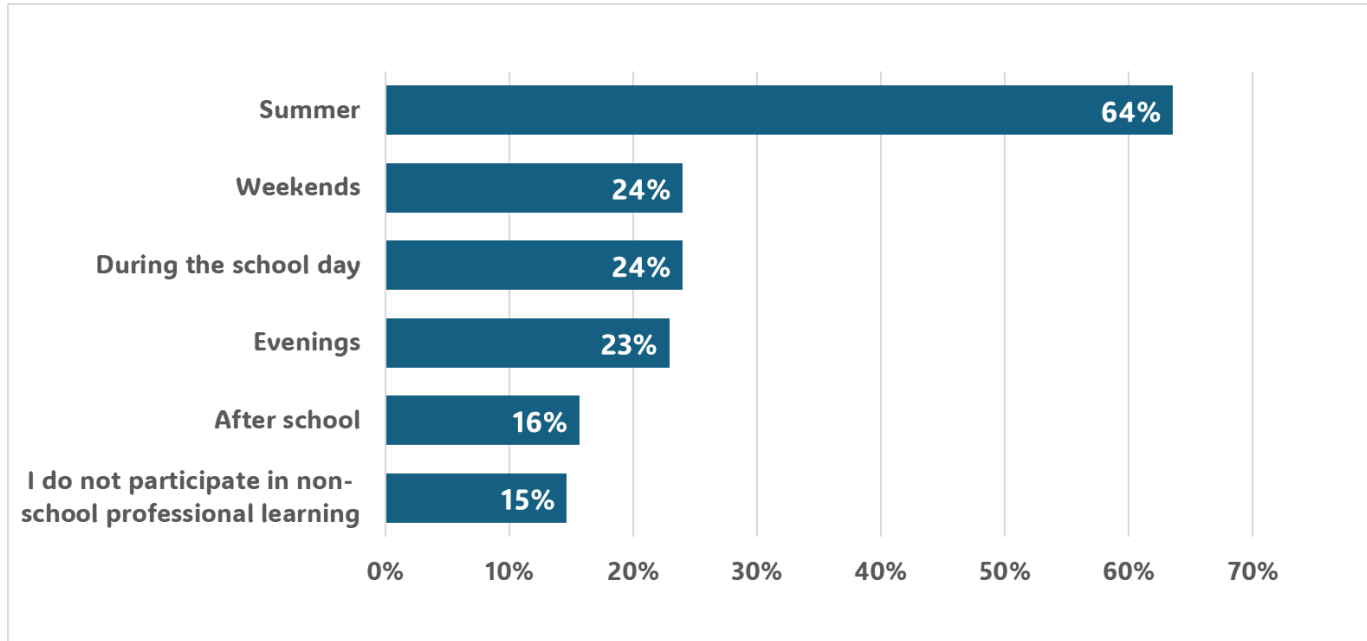


Figure Q19 Series: When do you prefer non-school provided professional learning? (Select all that apply.) (n=90)

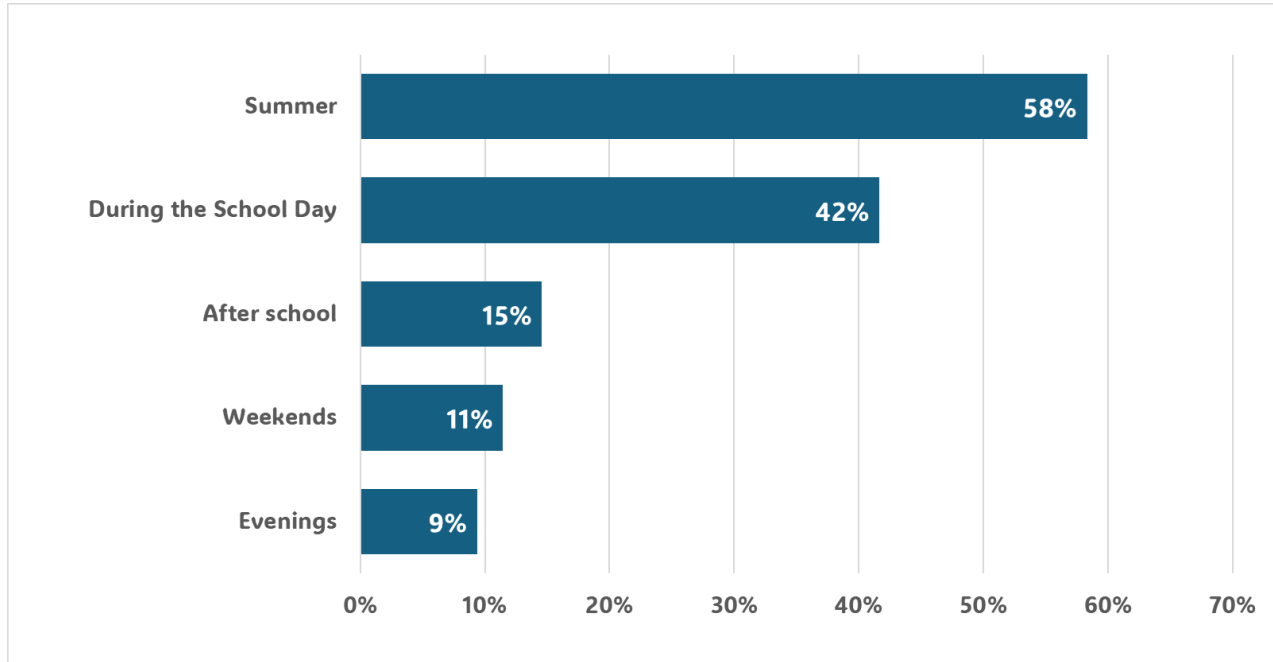


Figure Q20: How comfortable are you with participating in virtual professional learning? (n=90)

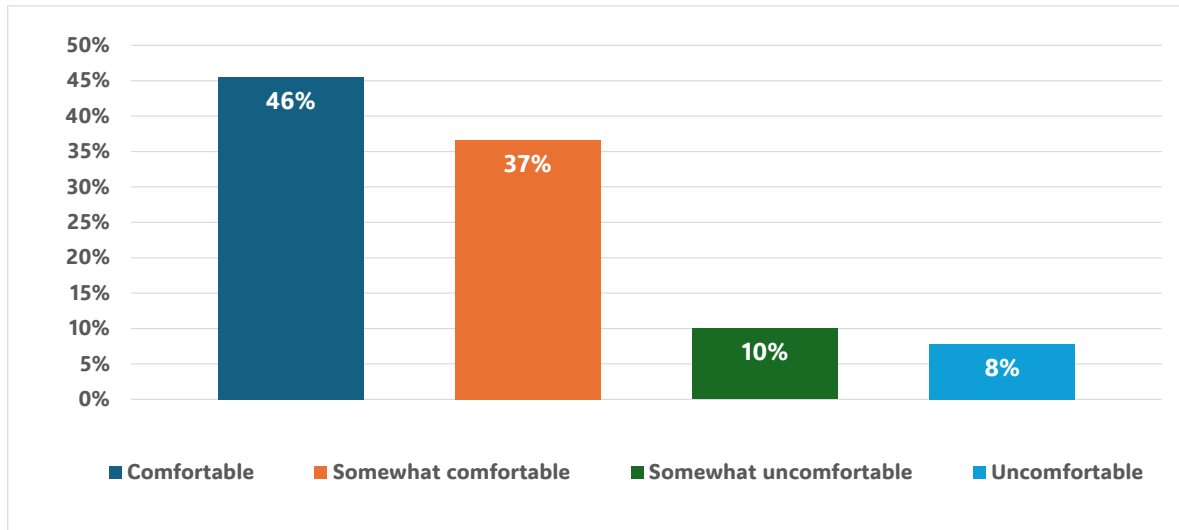


Figure Q21 Series: With which virtual tools are you experienced AND comfortable using? (Select all that apply.) (n=90)

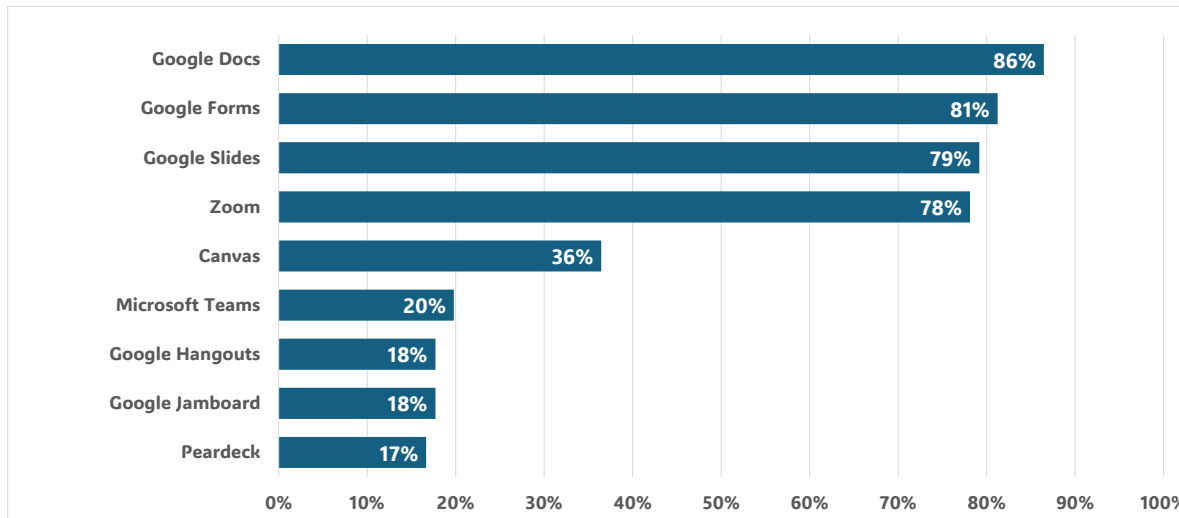


Figure Q22 Series: At home, I do NOT have access to (select all that apply.) (n=26)

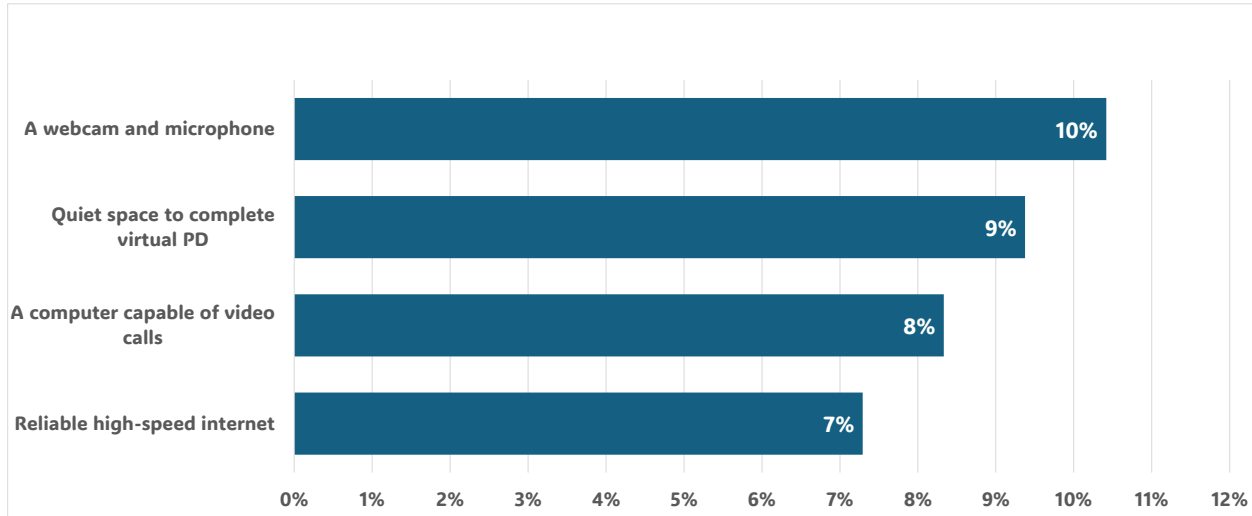


Figure Q23 Series: At work, I do NOT have access to (select all that apply.) (n=22)

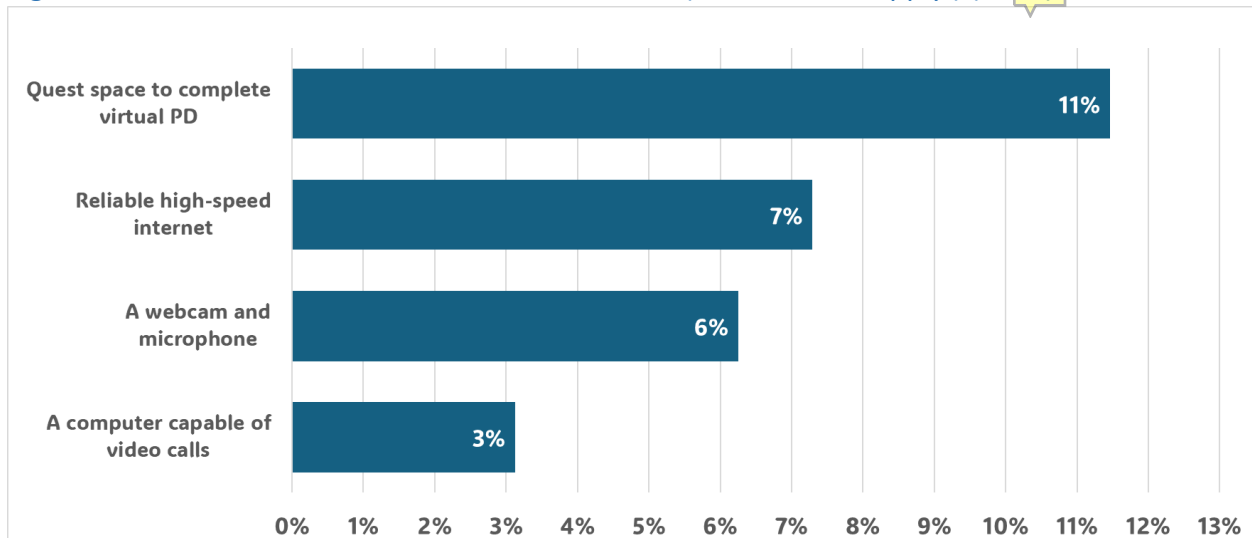


Figure Q24: Do you have any additional technology concerns that may hinder your participation in PL? (n=87)

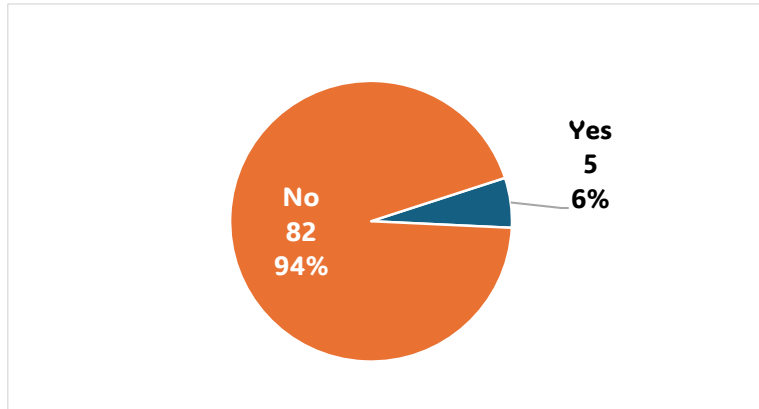


Table Q24: Additional Technology Concerns “Yes” response follow-up

All Responses

All teachers in my district were given Microsoft Surface Pros, built in haste by the lowest bidder. I have never in my life worked with such an all around terribly designed machine. Zero processing power, no cooling system, and glitchy as all heck. Had I specifically designed a computer to fail, I could not have done so more effectively. Zero stars. My assessment is harsh, I know, but accurate. I have been running a classroom from this pieeeeeeece of **** for three and a half year. If you had, you'd agree.

Tech restrictions.

Typically district IT does provide adequate support. For example we were supposed to train on our new McGraw Hill text and the district had not the integration work so that the training could happen.

We have zero technology for lab data collection. (Vernier probes and technology).

Websites being blocked by district filters.

Table Q25: In which school do you teach?

School	Count
Independence High School	3
Wichita East High School	3
Andover eCademy	2
Andover High School	2
Blue Valley West High School	2
Bonner Springs High School	2
Emporia High School	2
Fort Scott High School	2
Gardner Edgerton High School	2
Great Bend High School	2
Paola High School	2
Pittsburg High School	2
Salina Central High School	2
Southeast High School	2
Topeka High School	2
Winfield High School	2
Altoona-Midway Middle/High School	1
Andale high school	1
Andover Central High School	1
Axtell Public Schools	1
Baldwin High School	1
Caney Valley High School	1
Centralia High School	1
Chanute High School	1
Chase County Jr/Sr High	1
Chase Raymond High School	1
Columbus Jr/Sr High School	1
Derby High School	1
Ellis High School	1
Field Kindley High School	1
Frontenac High School	1
Garden City high school	1
Golden Plains High School	1

Halstead High School	1
Hays High School	1
Hoisington High School	1
Holcomb High School	1
Hugoton High School	1
Kansas City High School	1
Kinsley Jr/Sr High School	1
Liberal Senior High School	1
Louisburg High School	1
Mackville High School	1
Madison Junior High/High School	1
Maize South High School	1
Marmaton Valley High School	1
Meade High School	1
Mission Valley High School	1
Olathe East High School	1
Onaga High School	1
Ottawa High School	1
Piper High School	1
Riverside High School	1
Sedgwick High School	1
Shawnee Mission East High School	1
Shawnee Mission South High School	1
South Gray High School	1
Spearville Middle/High School	1
Spring Hill High School	1
St. Paul High School	1
Tescott High School	1
Topeka West High School	1
Valley Center High School	1
Valley Heights Jr/Sr High School	1
Wabaunsee High School	1
Wichita High School	1
Wichita High School South	1
Wichita Northwest High School	1
Wichita South High School	1

Wichita West High School	1
Yates Center High School	1
TOTAL	89

Table Q26: What is the name of your school district

District	Count
USD 259	9
USD 385	5
USD 446	3
USD 501	3
USD 204	2
USD 229	2
USD 231	2
USD 234	2
USD 247	2
USD 250	2
USD 253	2
USD 305	2
USD 368	2
USD 428	2
USD 512	2
USD 113	1
USD 114	1
USD 203	1
USD 210	1
USD 226	1
USD 230	1
USD 233	1
USD 240	1
USD 249	1
USD 256	1
USD 260	1
USD 262	1
USD 266	1
USD 267	1

USD 284	1
USD 290	1
USD 316	1
USD 322	1
USD 329	1
USD 330	1
USD 347	1
USD 348	1
USD 351	1
USD 363	1
USD 366	1
USD 371	1
USD 380	1
USD 381	1
USD 386	1
USD 387	1
USD 388	1
USD 401	1
USD 413	1
USD 416	1
USD 431	1
USD 436	1
USD 439	1
USD 440	1
USD 445	1
USD 457	1
USD 465	1
USD 480	1
USD 489	1
USD 493	1
USD 498	1
USD 500	1
USD 505	1
TOTAL	89

Figure Q27 Series: What grade levels are taught in your school? (Select all that apply.) (n=90)

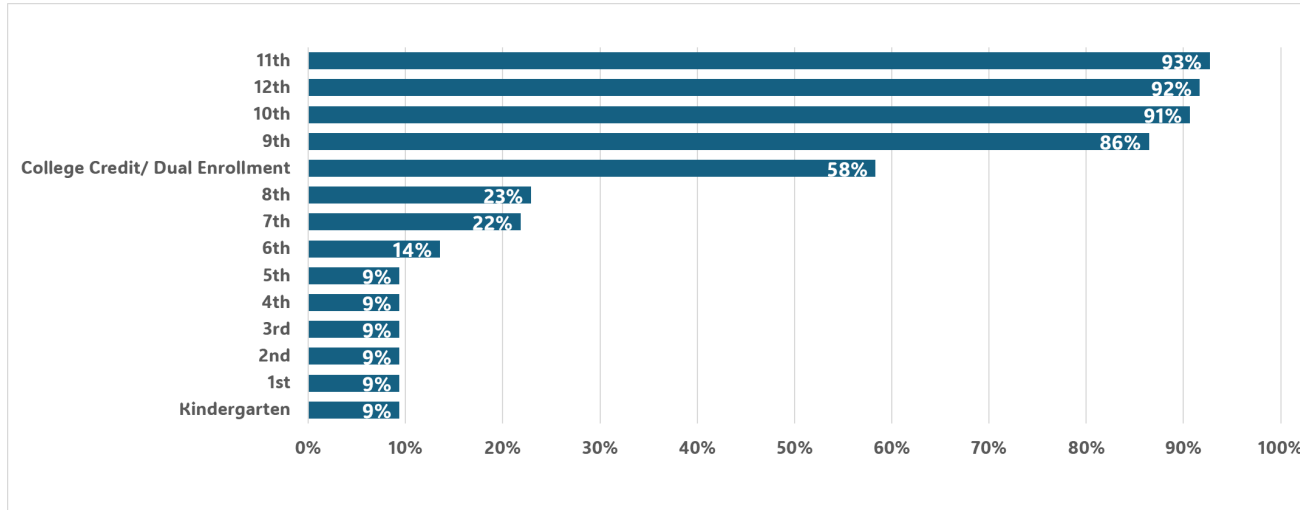


Figure Q28: What is the size of a typical graduating class at your school? (n=89)

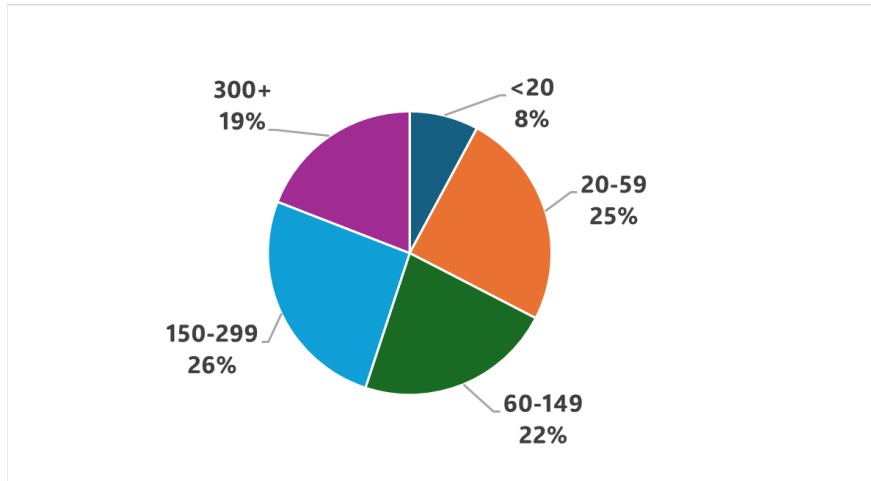


Figure Q29: Including yourself, how many teachers teach at least one secondary science class? (n=90)

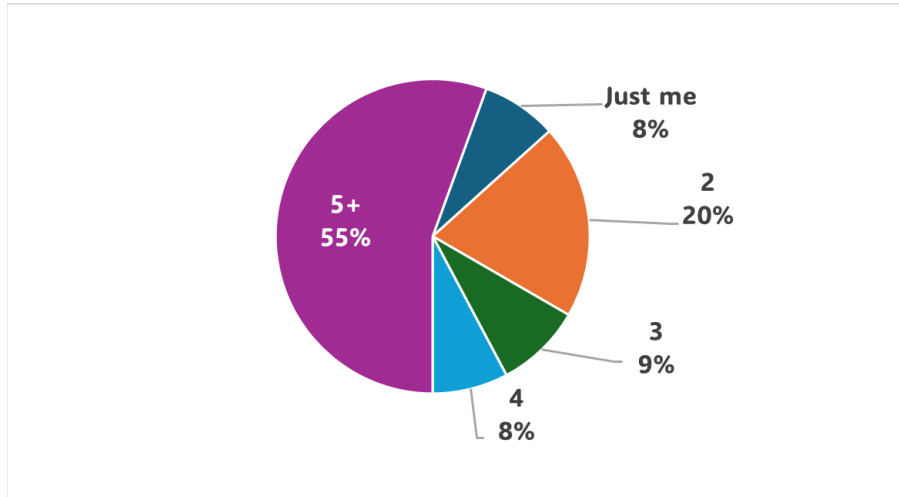


Figure Q30: Gender (n=90)

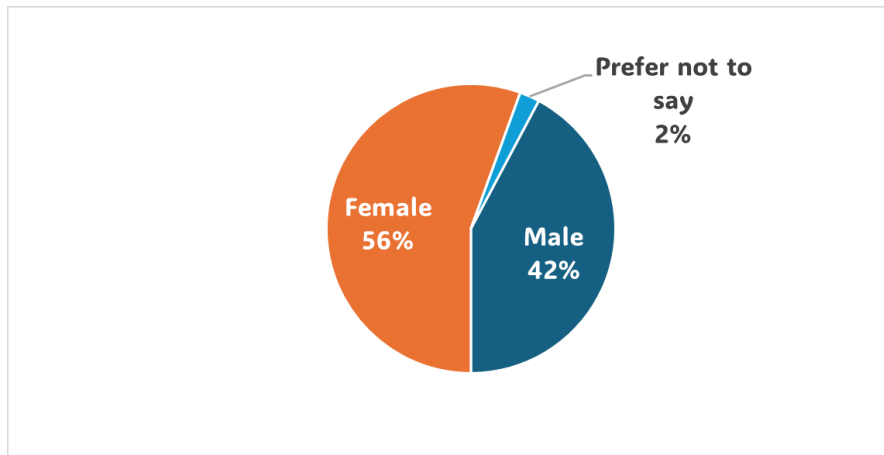


Figure Q31: With which racial categories do you identify? (n=90)

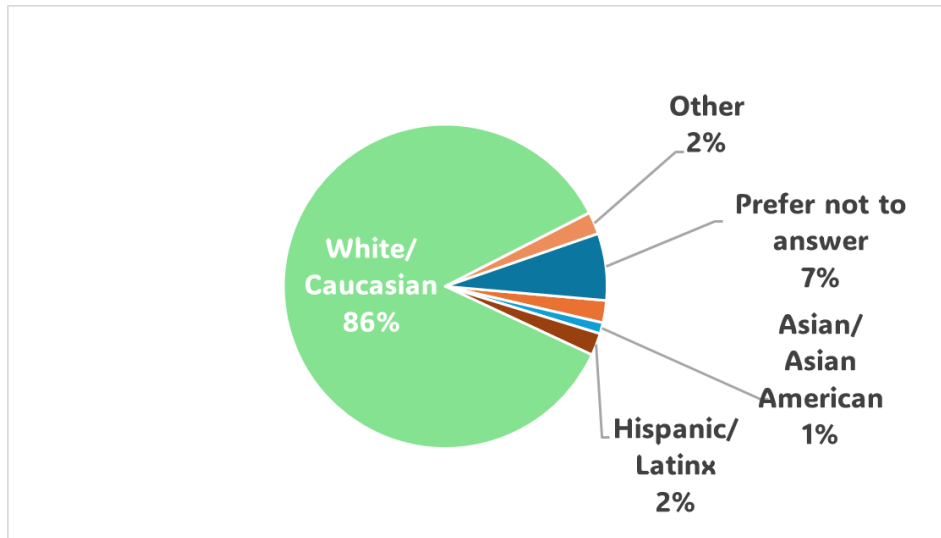


Figure Q32: What is your highest level of formal education? (n=90)

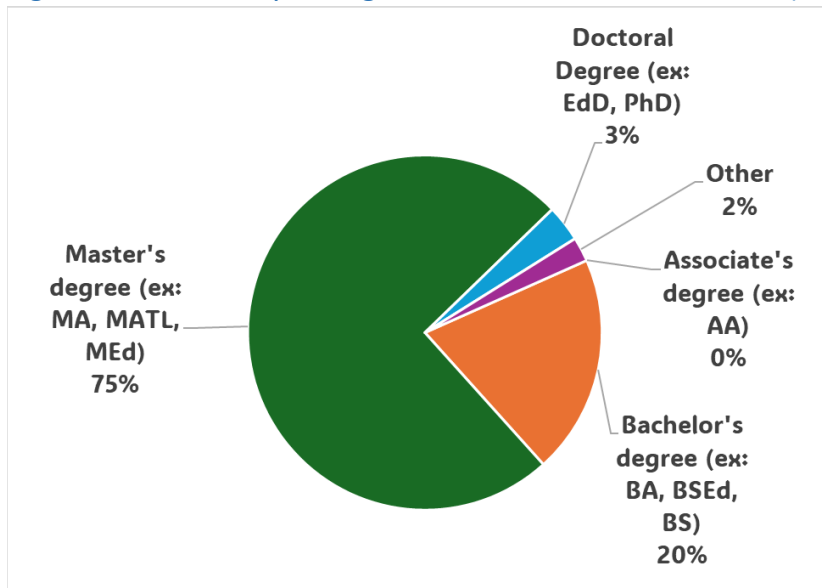


Table Q32: Other Highest Education Level

All Responses

Ed.S

One semester left of MEd

Figure Q33: Which of the following best describes the path you took to earn your teaching license? (n=90)

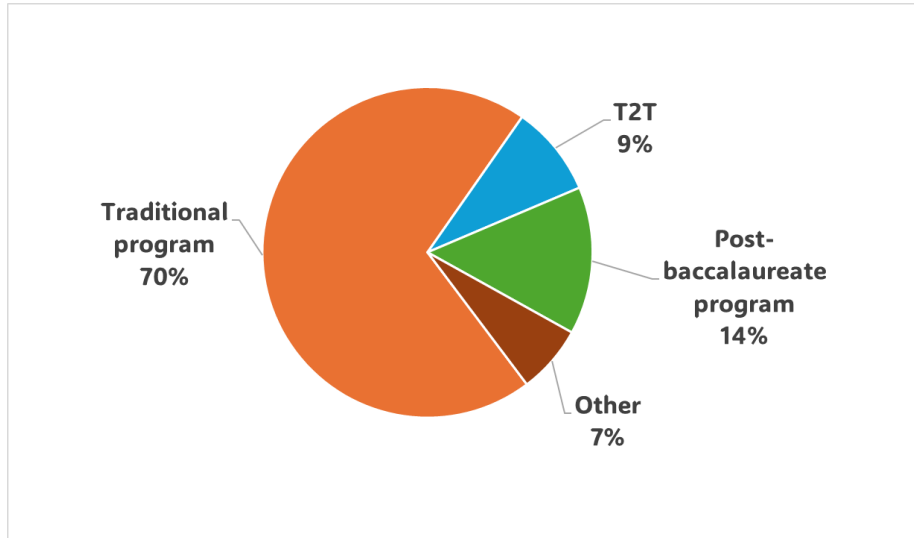


Table Q33 Other: Path to Teaching License

All Responses

CT ARC (like KS T2T)

I have degree and license in PE K-12, but I got certified in ESS and Biology.

MAT

Math Degree. 15 years later - coursework to certify.

UKAN TEACH

UKan Teach from KU

Figure Q34 Series: In what subjects are you endorsed to teach? (Select all that apply.) (n=90)

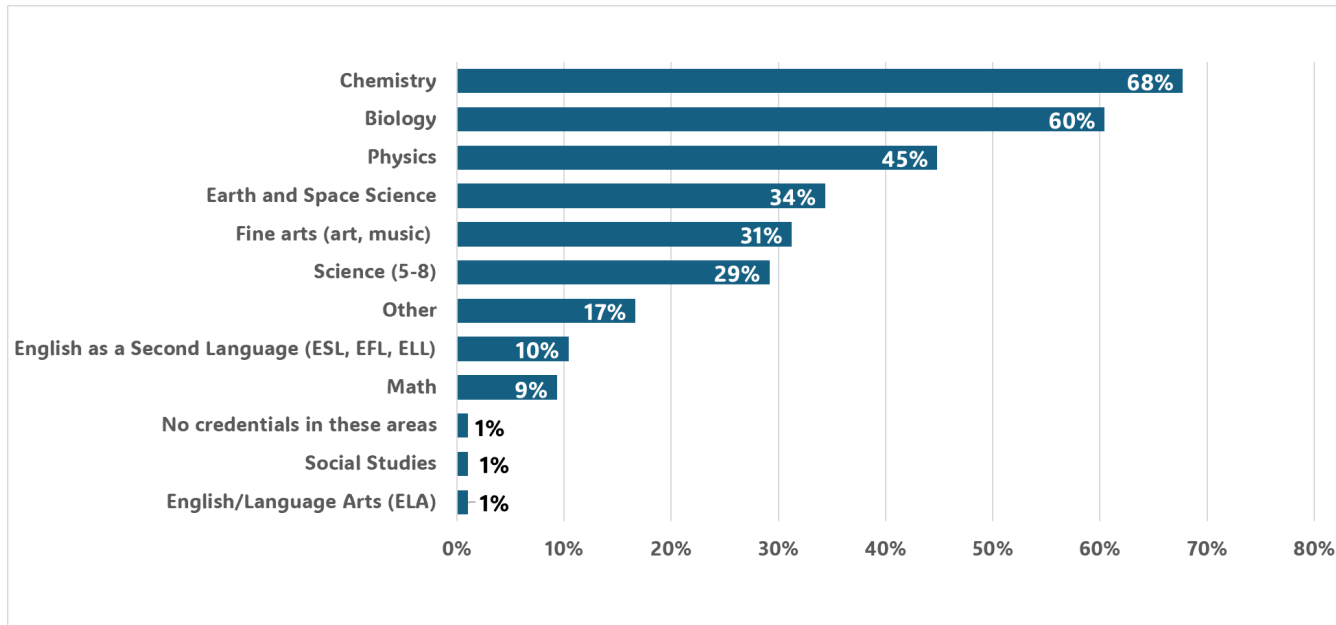


Table Q34: Other Endorsements

Categories	Count	Percent
SPED	4	27%
Computer Science	2	13%
Engineering & Technology	2	13%
General Science	2	13%
PE	2	13%
6-12 Certification	1	7%
Chemistry & Physics	1	7%
Science	1	7%
TOTAL	15	100%

Figure Q35 Series: What grade levels are you teaching this year (2023-24)? (Select all that apply.) (n=90)

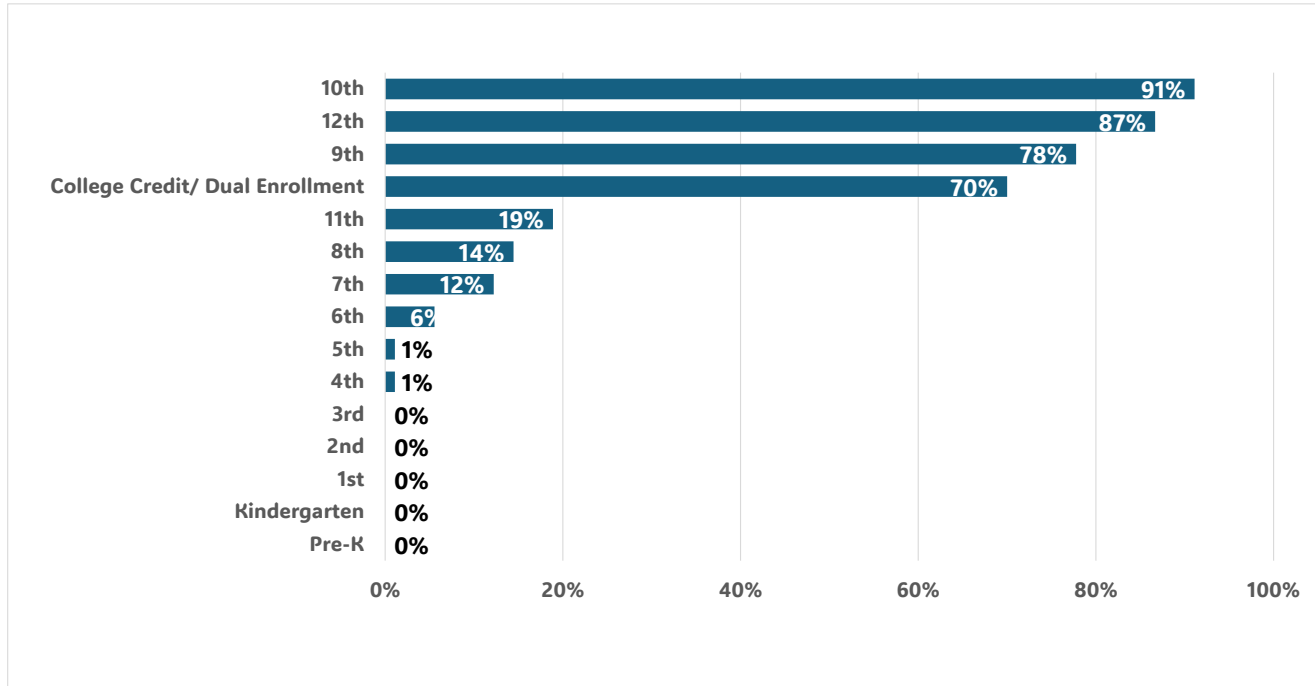


Figure Q36: Do you teach any multi-grade classes? (n=87)

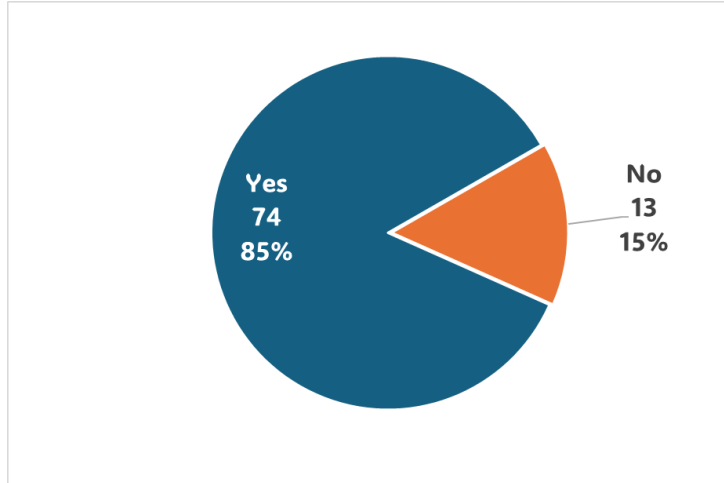


Table Q37: Which grades are grouped together?

All Responses	Count	Percent
10, 11, 12	18	28%
11, 12	16	25%
9, 10, 11, 12	8	12%
10, 11	3	5%
10, 11, 12	2	3%
10, 11 & 11, 12	2	3%
6, 7, 8	2	3%
11, 12 Earth and Space	1	2%
11, 12 (10 if foreign exchange student)	1	2%
10, 11 & 11, 12	1	2%
9, 10 & 10, 11, 12	1	2%

9, 10 & 11, 12	1	2%
9, 10	1	2%
9, 10 Physical Science, 10, 11, 12 Chemistry, 11, 12 Physics	1	2%
9, 10, 11 ELL Physical Science; 11, 12 Chemistry	1	2%
9, 10, 11 Honors Chemistry; 10, 11, 12 AP Chemistry	1	2%
9, 10, 11, 12 Earth and Space; 9, 10, 11, 12 Environmental; 10, 11, 12 Chemistry	1	2%
All	1	2%
Many	1	2%
Upper-level science courses	1	2%
We attempt to track our students, so some freshmen double up on General Science and Biology and then take A&P as sophomores. Some take Bio as Sophomores and A&P as Juniors.	1	2%
TOTAL	65	100%

Figure Q38 Series: What courses do you teach? (Select all that apply.) (n=90)

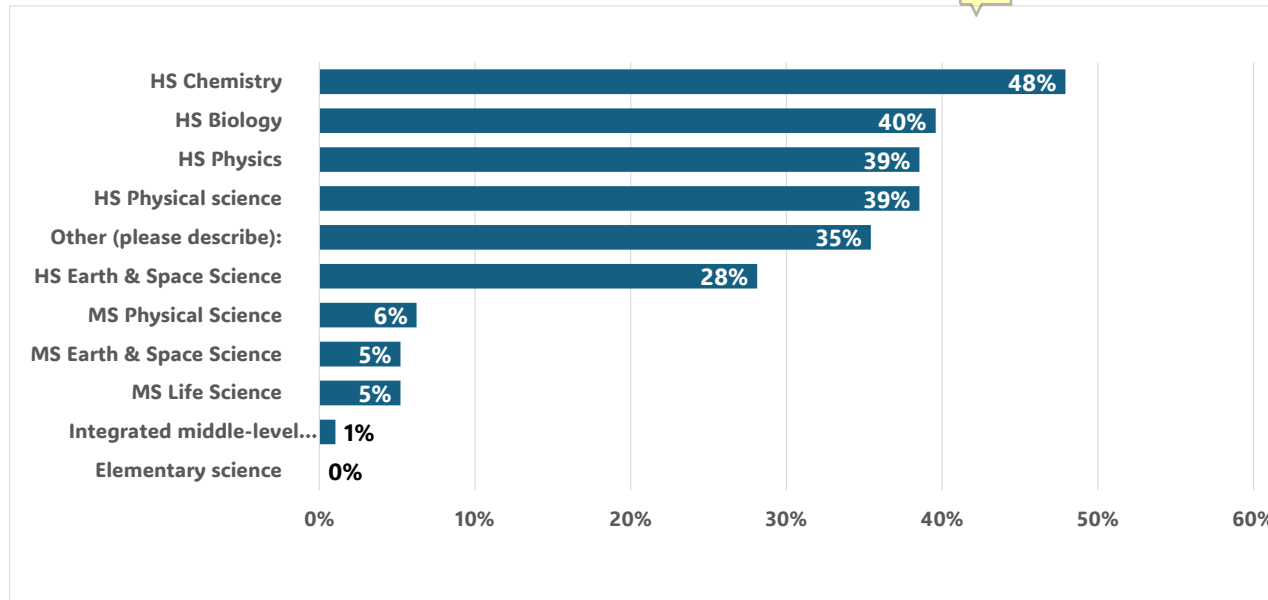


Table Q38: Other Courses Taught

All Responses	Count	Percent
Anatomy & Physiology	8	24%
Forensic Science	3	9%
Health Science	3	9%
AP Biology	2	6%
AP Physics	2	6%
Zoology	2	6%
Agricultural Ecology	1	3%
Animal Science	1	3%
CAPS	1	3%
CSI Enrichment Class	1	3%
Environmental Science	1	3%
Food Science	1	3%
HS Scientific Research	1	3%
Integrated Science	1	3%
Intro to Healthcare	1	3%
Life Skills Science	1	3%
Material Science	1	3%
Pre IB Physics	1	3%
Pre-Calculus	1	3%
Robotics	1	3%
TOTAL	34	100%

Figure Q39 Series: Are you fully certified, provisionally or emergency certified, or not certified to teach those course?

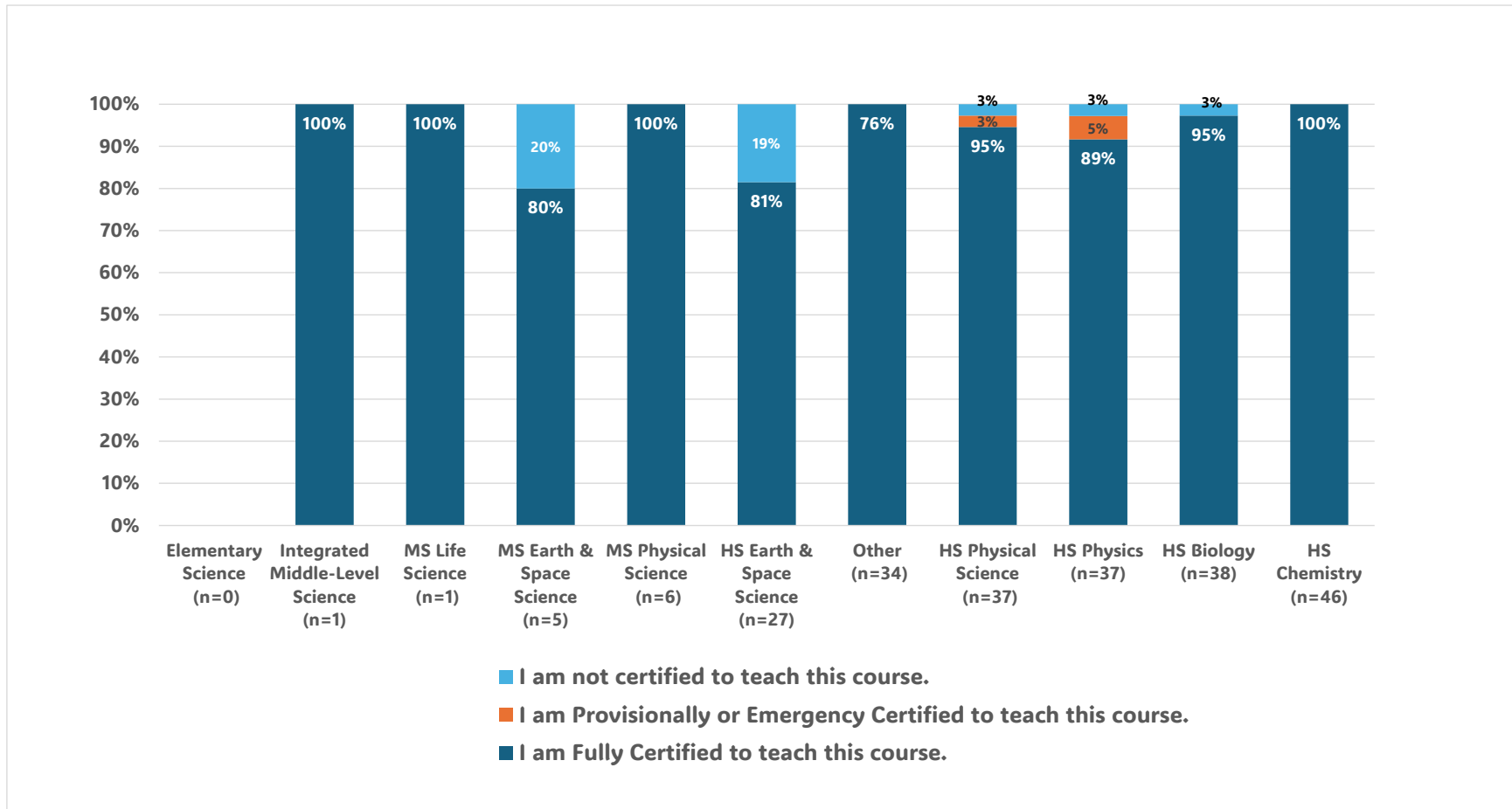


Table Q39: Other Courses Certified to Teach

All Responses	Count	Percent
Anatomy and Physiology	3	17%
Health Science	2	11%
Zoology	2	11%
Anatomy, College Biology, Forensic Science	1	6%
AP Biology and CHEMISTRY	1	6%
AP Physics	1	6%
College Chemistry	1	6%
CTE Pathways	1	6%
Forensic Science	1	6%
Integrated Science	1	6%
Material Science	1	6%
Physical Science	1	6%
Pre-Calculus	1	6%
Robotic	1	6%
TOTAL	18	100%

Figure Q40: Do you teach any non-science courses? (n=88)

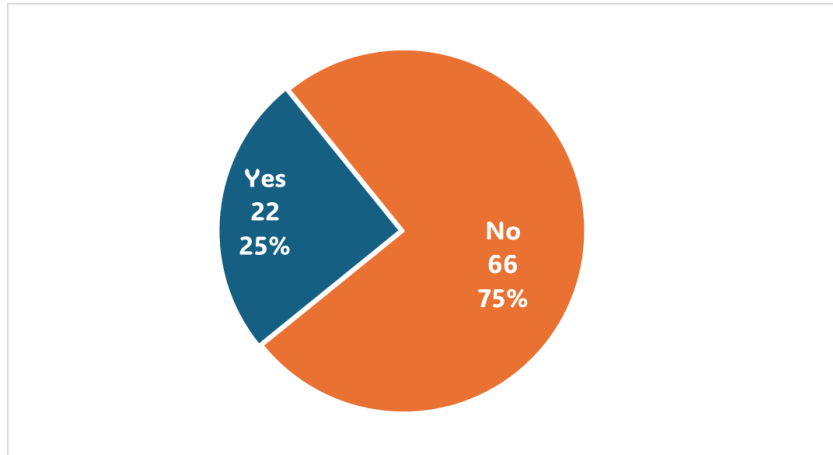
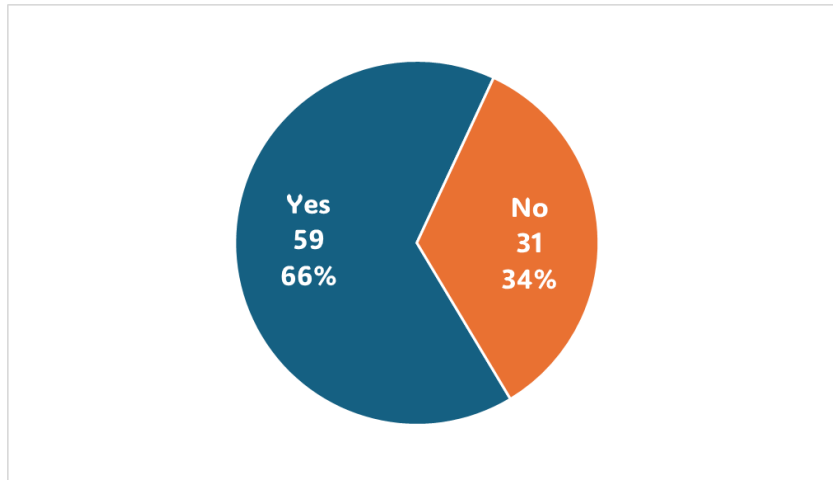
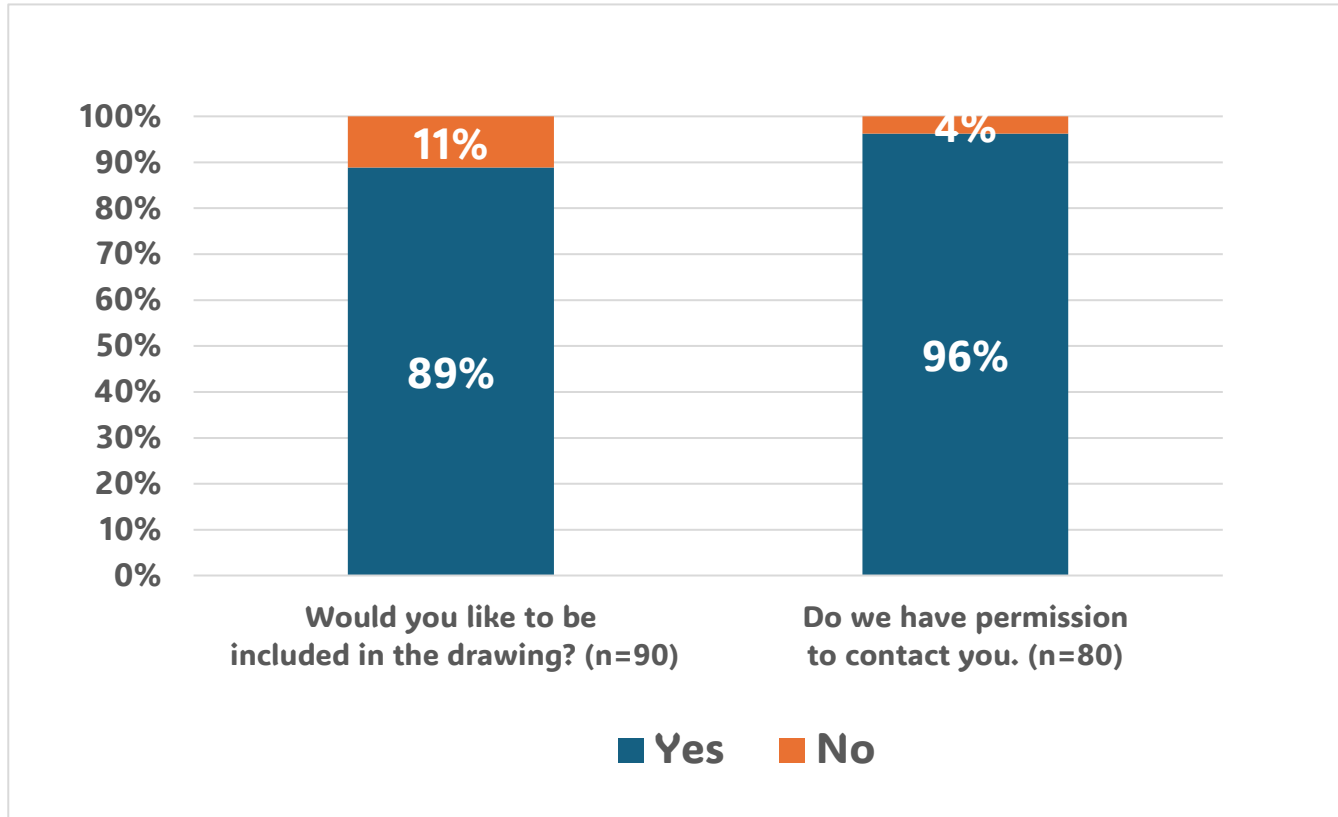


Figure Q41: During your own K-12 education, did you attend a rural school? (n=90)



Figures Q42 & Q44: “Would you like to be included in the drawing” (n=90)? If YES, “Do we have permission to contact you?” (n=80)



NOTE: Q43 asks for contact information for respondents wishing to be included in the drawing.

Appendix I: Original Qualitative Responses

Question 7 Other: Instructional Materials

- AP classroom
- APES PBL curriculum
- Cengage Chemistry
- Chemfiesta website
- Collaborate with other districts
- Discovery Education
- Facebook teacher groups where we share lessons with each other.
- HMH
- HMH Dimensions
- HMH Science Dimensions
- Holt Rinehart Winston, and Teaching Physical Science with a Mathematic Approach
- I use the textbook as a guide, but use activities from various sources
- Isaac Physics & Physics Aviary
- It has been over 10 years since we have had a formal instructional resource adoption. Mst teach
- It's Not Rocket Science
- Its Not Rocket Science
- Lab Aids
- Mosa Mack (on line)
- NGSS
- Pearson Chemistry and Physics
- Physics classroom & pHet; most kids don't find texts all that useful and few text activities and labs are useful
- Pltw
- POGIL AP Chemistry, POGIL Physical Science, POGIL Physics, Vernier Labs
- Positive Physics, The Physics Classroom, Open Stax
- Progress learning
- robust mix of sources
- Savaas/Pearson
- SAVVAS Earth Science, Pearson Physics
- Savvas Experience Chemistry/Physics

- Saxon Physics
- Stemscope
- Textbooks and materials gathered from 28 years of teaching. I use interactive readers from a former textbook.
- TPT
- Unique NY2 Special Education Science and other SPED curriculum

Question 9: What do you most enjoy about teaching in a rural community?

- Behavior management
- Being connected to the community and knowing families more personally.
- Better pay
- Close knit relationships between the school and community
- community
- Connections with my students and their families outside of school.
- Easy to build student relationships.
- Enabling the students to explore the world outside of the rural community
- Enjoy the ability to connect with students about the variety of topics and the closeness of the community.
- Getting to know students and families, having students for more than one year
- Getting to know the kids outside of school through sports and sponsoring group activities. I also like the smaller class sizes - mine are from 10-20 students. I also think that knowing most of my students' families help me make my teaching meaningful, by using specific examples about where we live and what the jobs/industries are.
- getting to know the students and families
- Getting to really know every student.
- Getting to teach the kids for multiple years in multiple classes.
- Having students understand about issues and teaching them to understand.
- I am able to personally know my students and interact with them outside of school (sports, activities, work)
- I am in an urban community.
- I am not sure you can consider Topeka a rural community.
- I can connect with their daily examples
- I do not teach in a rural community.
- I do not teach the same subject all day long. I know the students' families
- I don't teach in a rural community
- I enjoy making connections between scientific principles and how they relate to agriculture and other industry in our area.

- I enjoy the relationships I make with students, coworkers, and community members.
- I feel it's easier to build relationships with stakeholders and students with day to day interactions and communication help build a stronger learner in the classroom with a solid support system.
- I have only taught in a rural community. Class sizes are smaller, and I usually know the parents as they attend activities.
- I like the students and their families. People in rural communities are the best.
- I love having small class sizes and knowing the triumphs as well as the struggles with students because you are in touch with the community. The school is a driving force for the community and the community is a driving force for the school.
- I love knowing the students and seeing them grow for many years
- I teach at an urban school and love it. not all Kansas is rural, bro.
- I teach in a suburban community.
- I teach in a suburban district.
- I teach in a urban school.
- I teach in an inner city school.
- I teach in an urban community
- I teach in an urban community. I enjoy having a largely diverse classroom community where students can get to know, understand, and respect those who do not look like or talk like them.
- I teach in an Urban School
- I teach in Lenexa, the suburbs
- I'm not in a rural community
- In the Midwest, people are more kind. I also really enjoy the support my students and I have at my school.
- It is all I've ever known. It is a good fit
- It's a safe environment.
- Its the community that I live and serve in.
- Knowing both the parents and the children
- Making a contribution where others are not likely to want to work
- More interaction with each student (multiple classes with the same students) so I can see their development.
- multi-year contact with students
- My current district would be considered suburban. I am going to be in a different district next year.
- n/a
- NA
- Not in a rural community
- Not rural. We are suburban. I enjoy teaching in an area that has both large city amenities, but is close to rural areas.

- Nothing
- Our students are polite, work hard, and come from good families. I feel like my admin and my parents have my back with any issues. We truly have the best students.
- People know each other
- relationship with students
- Retirement! This year - HA!
- Small Class size. Giving them opportunities (field trips, videos, experiences)
- Small class sizes
- Small class sizes and being able to get to know students.
- Small class sizes and more control of my curriculum
- Small class sizes, few behavior problems, relationships with students
- Small interpersonal relationships
- Small school/class sizes
- small student-teacher ratio
- Smaller class sizes to allow for more teacher to student interaction and assist students with their individual understanding.
- Smaller numbers of students.
- Students have lives outside of school that teach them important core values.
- Teaching a variety of classes
- The ability to build relationships with students and show them cool science things.
- The ability to have autonomy
- The close knit community.
- The family involvement in learning and the easy sell for the importance of agriculture
- The small class size.
- The students
- The students are willing to work.
- The students have real world experience and are a close family.
- The support I get from the community. I get free materials and interest from the community on what we are doing in class.
- There is a great opportunity to form meaningful professional relationships with staff and students.
- There is more freedom of choice in how we approach the planning portion of teaching.
- varied kids
- We are able collaborate with teachers in our subject area on a regular basis.
- we are urban

- We have a really interesting demographic. Some of our kids live in a rural setting, but some live in KCK. Bonner is a bedroom town of Kansas City, so our student body is pretty diverse.
- We know each of our students and have great relationships with them.
- We know each other. My biological kids got to school here. I teach so other students get a quality education.
- You are able to know and build relationships with the students and their parents.
- you know everyone, smaller classes,

Question 10: What is unique about your school community that is important for us to know about when designing science professional learning to serve your needs?

- 25% Asian/Middle Eastern
- 4-day week, largely agricultural community
- 50% of our kids are low SES. Bonner has rural kids, sub-urban kids, and kids who live in KCK. I'd like to learn embed more math and reading in my science lessons. 50% of our students are below level in reading and math.
- 70% or higher impoverished community
- A lot of diversity from around the world
- A lot of students have trauma and lack stability in their lives
- Admin does is not familiar with the three dimensional science standards, curriculum superintendent is not familiar with how the standards require a shift in instruction. I.E- we were asked to say which PE will be mastered in which 9 weeks. We do not teach an Earth Space Science course, and did not receive guidance on using the KSDE bundles, or the NGSS bundles. We did not include the ETS standards, because the "unpacking" was done on a course by course basis. I am leaving this district though, and upon interviewing, it seems as if the new district has a better understanding of the challenges.
- At risk district with 50% Caucasian & 50% Hispanics population.
- Declining enrollment has reduced the number of teachers requiring teachers to be highly qualified in additional areas
- extremely conservative community with resistance to scientific facts and theories, vaccines, evolution, geologic time.
- fairly open to new ideas, science is kind of a back burner to math and reading
- For many students English is a second language, or a language they do not know well.
- Good science budget, admin that allow for creativity
- Great community support.
- how to teach with limited fundin
- Huge cultural diversity
- I am the only high school science teacher at my school and have a lot of preps.
- I am the ONLY high school science teacher in our district.

- I am the only science teacher for 10th, 11th and 12th grades students. This allows me to control the science curriculum in a way that I feel fits student needs and successes.
- I do not think we are that unique in Andover
- I don't know if it is unique or not, but, for quite a few of our students we have to consider what life is like outside of school for some of our students as a way of understanding their state of mind. We have a lot of different hats to wear on a daily basis.
- I don't teach physical science or earth science in a science lab. I have a class with 3 sinks and lots of outlets so we have to get creative some times. I would like to go to some PD specific Science trainings but I have yet to find any.
- I live in a very conservative Bible belt type of community
- I teach low incidence students and we try to include them in regular science classes while using our own modified curriculum
- I worry about how easy it is to be a Science teacher for middle school. Students have a LOT of misconceptions due to the low requirements for Elementary Teachers that become Middle School Science Teachers. Heck....I could say that the bar keeps being lowered across the board.
- Incredibly low SES (One of the lowest in the state), one of the highest mobility rates in the state (near 100%)
- It has a diverse military population.
- It is difficult to get teachers to do professional development during summer breaks. Unfortunately, that kind of time block is necessary to develop better strategies and to collaborate with other professionals.
- it needs to be varied for various levels including lower level sped students
- Lack of discipline for students. Students refuse to do most assignments and therefore have very bad grades. Administration does not make students do their work but constantly insist that they all graduate.
- Large percentage low SES
- limited access to supplies/use everyday materials regularly.
- Lots of low SES, lots of blue collar parents
- More professional trainings for science teacher to reach out here in south western kansas
- Most of the students are real students and do not plan on going to a higher education after high school
- Most students come in with very low understanding of the basic math concepts that they need to apply to chemistry. They also had little to no science in elementary school, so they do not have much enthusiasm for the subject in general at the start of the school year.
- Much of our community is low income and very behind-level for reading and writing
- multidiversity
- My school community has diverse needs, and the teachers collaborate often in order to meet those needs. The information/ resources need to be able to span many levels of achievement as well as cover all domains of science.
- N/A?

- Nothing
- Online communication to industry is essential. It would be nice to have large corporations "donate" equipment to schools so students know how to use their equipment. Ex. Haas machines can be donated to Industrial Technology Departments. Tools and machining centers are the way of the future.
- Our building does not exist in a community. Rather, we are in the middle of nowhere and students are bussed or have to drive themselves to our school.
- Our community is comprised of many agriculture families.
- Our district has a growing number of ESL students
- Our district is split between Johnson County and Miami county. We are 1/3 rural students and 2/3 suburban students.
- Our small class sizes allow us to do lots of labs so we are interested in those that relate to our farm/industrial backgrounds.
- Parents are very involved
- poverty informs all decisions here regarding future careers and post secondary plans
- small staff with a wide variety of teaching assignments
- Some students have been only exposed to our community while others have come from urban areas and other countries.
- Student outcomes drive curriculum
- Students come from a wide range of backgrounds. When things get hard, students will often drop out or go online.
- technology is limited
- The ability to take students interests and embed them into the lesson which causes the students to more engaged.
- The committee is very supportive and the kids love science.
- The differences between Elementary, Middle, and High school. High school kids need to be pushed harder than middle school. And middle school need to dive deeper into topics than elementary. Also a better distinction between physics, chemistry, Earth and space, and biology topics.
- The expectation is all students will attend a post secondary program
- The labs bought through supply companies are too expensive
- The students are wildly apathetic.
- There is not much racial diversity
- There are only 3 science teachers and our subjects/classes do not overlap.
- There is a big city near that needs to be used as a resource.
- Time in the classroom is precious because students in a small school are so involved in a variety of activities. While activities are great, it does limit contact time with students. I need the most "bang for my buck" considering my time in the classroom.
- Time to talk about content and less time to talk about NGSS. Students need more time spent on teaching and learning actual content instead of some storyline that ends no where.

- urban, low SES, challenging to do student-driven classes
- very diverse population of students, many new commers to the States, many supportive families as well as many absent ones, wide range of socio-economic statis, wider than you're thinking.
- Very focused on grades and lots of peer pressure to do well in class and school activities
- Very very limited financial resources
- We are a farming community. It is great to have students with common sense that work hard and love to investigate.
- We are a large suburban district with 1 to 1 computers for students.
- We are a standards-based grading school. This has been a huge endeavor to take on. Very progressive school district.
- We are all fed up with DEI initiatives, including the majority of my students. We are open and accepting people who don't need to constantly be inundated by said nonsense. My students complain frequently, when this stuff comes up in our "SEL" lessons. They beg me not to do it.
- We are highly agriculture, but there are pockets of students not directly involved with Ag.
- We are the most accepting community I know.
- We continue to develop relationships with professionals in our community especially in the areas of health, construction, engineering, and agricultural.
- We have a diverse population
- We have a great relationship with the local hospital for kids to go to job sites and see health science careers including clinical laboratory science careers
- We have a high number of free or reduced lunch students, lower income.
- We have many low SES families as well as a growing ESOL community.
- We need materials that is easily adapted for English Language Learners and students who have special needs.
- We need to discuss the use of virtual tools so we can expose students to resources rural communities lack.

Question 11: What specific challenges do you face as a science teacher at your school?

- Access to updated lab technology. The ability to do hands-on and open ended experiments.
- among other things contract time in no way allows adequate time to plan lessons, set up labs, provide and evaluate formative assessment, reteach and modify based on those formative assessments, not to mention grade all the labs, assessments, etc, etc that are an essential part of the process of effective teaching. I get paid for about 75% of the hours I work. This is irksome.
- Apathetic students
- Apathetic students, old equipment/facilities, few students taking advanced courses.
- Apathy

- Apathy and getting students to do anything outside of the classroom. Some of the questions in the above survey imply that maybe I could do more to engage them. I also feel like I do a lot to get them involved.
- As the only science teacher for 7-12, I am limited in the number of advanced classes that I can offer.
- Being able to adapt and modify materials without resources.
- Being able to get lab experiences for students do to distance and funding.
- Being the only one to help elementary and middle school kids learn science. I do have a HS colleague, but differences at middle school and elementary are challenging. As well as a wealth of topics to cover.
- Budget with lab equipment
- Challenges at my school include building relationships with professionals in the area, increasing exposure to different career pathways, and relaying the application of science to everyday life.
- Constantly writing curriculum is time consuming, so I struggle with working 2-3 hours after contract time in order to have rich and meaningful curriculum for students that they can understand and build new knowledge on. It is exhausting and not sustainable. I've been doing this for 10 years and am feeling burnt out. I believe that science teachers should have an extra prep time since labs take so much work to prepare in addition to our other professional duties (which we do not have enough time to complete). The sheer number of students that we have on our rosters means that we are never able to individualize instruction to meet the needs of our students, which ends up making them less likely to enjoy science and consider a career in the field.
- Disinterest, behavior, students enrolling and transferring frequently
- education doesn't seem as valued to students, so some courses are rarely student-driven.
- enrollment numbers
- ESL language barriers. Changing demographics.
- Finding time to do labs and activities is challenging as well as the disinterest of students.
- Funding and time
- Funding, some behavior issues as well
- Gaining the attention of students (competing with phones)
- Getting administrators and school board members to understand the needs of teaching science...limits on class size, need for advanced classes
- getting all students to want to learn about science and how it effects daily life.
- Getting students to take up the challenge of a more difficult curriculum.
- Grades can be more important than learning; science standards were poorly done. Anybody with any project management experience would have used something like Pert software so that the flow from K to 12 actually made sense instead of pretended to.
- Having technology that works consistently. Resources to purchase equipment or supplies to try new labs.

- High class size.
- high teacher turnover (Avg. yrs of teaching for staff is approximately 5, but that is skewed since a few of us have almost 30. I estimate when us outliers [3 of us] are removed, the average would be ~3 yrs experience)
- Honestly none..I guess I could use for funding, but we have it pretty good compared to others
- How to make sure they are all understanding what is being taught without having to grade a bunch of papers. I have changed this semester because I was grading 80+ assignments last semester very often and that was crazy. I have adjusted what I am doing but I feel the students are not understanding it as much. We used to read, do a lab, and also do study guides. So the students were getting it 3 different ways. Now that I am not doing as many study guides I notice we are not catching on as quickly. .
- I am currently facing many logistic, monetary, feasibility, and support issues. However, I am changing districts in hopes that some of those will be remediated. What I expect to stay the same is: chronic absenteeism, limited to no funding for field trips, issues modifying curriculum to maintain rigor for students with special needs.
- I believe we are still recovering from the COVID shutdown. I have had to reteach or start at a lower level with my classes to fill in some of those gaps that occurred during that time. Hopefully in a couple of years we recover from that completely to get to where we were before.
- I don't face challenges beyond cell phones and social media being more interesting to students than literally anything else. General apathy has increased regardless of what I or others try to do. Students don't feel like they can aspire to things and would rather watch other people achieve.
- I find the process of obtaining science materials difficult. I find the reading level of science textbook too difficult to effectively teach my students.
- I struggle with putting together useful and applicable labs that don't involve intense preparation due to time constraints.
- I teach too many students in one class period. Only general science courses are taught. There are very few science electives taught at my school because the district won't hire teachers to cover classes. I teach 30 students per class. If I taught 20 students per class, and they hired another teacher, I could teach more classes like College courses, Astronomy, Anatomy and Physiology, Virology, Forensic Science, and many others.
- Ignorance and lack of drive in the students and parents.
- Illiteracy, poor motivation, poor social interaction skills which makes collaborative work difficult
- isolation
- Keeping students engaged with the content when it gets complicated for the students.
- lab equipment that is out of date or doesn't work
- Lack of funds
- Lack of interest by students
- lack of prior experience and low socio economic status means students are less focused on academics

- Lack of science specific PD, questioning data on educational programs that don't make sense and then being scolded for that, students see little value in their science education, high levels of apathy, non English speakers, large classes, etc.
- Limited resources and time. (We have students miss quite often for extracurriculars.)
- Low budgets for consumables
- Low SES, low achievement, low interest in school, school is a low priority because families are poor
- Many of my students are religious and view science as contradictory to their belief systems.
- Many of the science concepts are difficult to teach without the hands on materials.
- Many preps, need more plan and prep time for meaningful activities
- misconceptions about what science is
- Modifying to cognitive level of my students
- Motivating students, designing curriculum to fit standards while being engaging, managing personal devices
- Multiple preps, lack of funding for lab supplies, and distance to areas for good educational field trips.
- My content requires active attendance and time spent out of class. Both are becoming less and less vital for other classrooms at my school. This results in my class becoming the hard class and gets less than max effort out of students that don't have a history of overcoming challenges.
- NGSS is NOT helping to make our students better prepared for the real world of research and understanding of actual science material.
- No money for supplies and equipment. No actual budget
- No support from administration. Students do not do assignments. Science classrooms are outdated.
- None
- Not enough time to plan
- Not having time to properly assess where all my students are in their learning. We are exhausted by the work conditions.
- Our elementary schools do an excellent job of preparing elementary students for math and reading state assessments, but due to the pressure felt by grade school staff, not much science gets taught at these levels. I feel like scientific thinking is a very new process for them when they get to high school.
- Our students don't often have the chance to see how a lot of our topics are used in everyday "real life." Being in a rural community, they don't get to go on field trips very often that relate to the topics at hand.
- Poor math skills hold my students back in science.
- Purchasing things for projects and knowing what to purchase.
- Resistance to well established scientific theories, like evolution
- Resources & materials for labs
- see #11, along with money issues

- See Q10. When I did the "draw a scientist" activity with my freshmen a few years ago, I was labeled a "feminist" in the community, as if this was an extremely negative thing.
- student and administrative attitudes towards science and learning in general
- student apathy, opportunities for job shadowing/career engagement. I do have speakers periodically, but not regularly
- Student motivation and apathy.
- Students addiction to cellphones
- Students are in a high number of other challenging classes
- Students are weak in their math skills and do not complete any work outside of the classroom.
- Students come in with no background knowledge, no experiences, and have a hard time making connections because of the lack of exposure to the world around them.
- Teaching kids who to analyze data when their math skills are very low is difficult. I think if we improved math and reading skills, we will have more flexibility in teaching science the way scientists do science in real life.
- Teaching students to process information rather than rely on memorization
- technology is too much of a distraction!
- The growing challenge seems to be the parent and student perception that school is not important. Thus, student absentees have increased significantly since COVID. The good news is that absentees have shown a slight decrease this year, so hopefully that will continue.
- the variety of levels of students and adapting to each individuals needs
- Time management pacing guide so much school activities were being prioritized over academics
- Time to cover all parts of the curriculum.
- Time to plan/prepare for lessons that offer students the chance to investigate phenomena.
- Time to work with my peers.
- To many preps, students being gone for sports
- Trying to fit earth science standards into the science curriculum.
- Walking the fine line of a mostly catholic republican community and their beliefs and mine.
- We lack resources.

Question 14 Other: Sources of Professional Learning

- Any science work I have done has been through my Masters program.
- AVID, book review, progress learning, textbook online learning, kagan, a lot of different PD to list.
- College Board APSI
- courses taken online

- CTE Pathways
- ESSDACK
- Green bush
- Greenbush Mentee PD
- KABT
- Kansas Corn: Seed to Stem
- Kansas Director of Science led a workshop about NGSS
- KSDE
- KSDE - Literacy
- KSDE Teacher Leader Program
- NGOs
- Orion
- Peer interaction
- Personal on-line research using professional sites and professional contacts
- Special education coop
- State Mandated Units
- Summer Workshops
- Teacher STEM training-Cosmosphere
- Went to a state workshop for Open Science Ed

Question 15 Other: Most Influential Professional Learning

- Book study about Burn Out
- CTE conference
- I don't respond well to force and indoctrination, especially in areas that relate to personal politics and ideology. It isn't the business of the state or school district to force ideologies upon me or others. Threatening (essentially) us to accept things that are not borne out by science or research, accept things that are harmful to our students, and misuse the language of empathy to do it.
- Little to none of our PD sessions have been beneficial to my classroom instruction or planning.
- None. Most of the professional development is directed at elementary schools and practices and not transferrable to the high school level of instruction I am at
- open collaboration with other physics teachers
- Session at NSTA in Kansas City

Question 17 Other: When does school-provided professional learning usually occur?

- PLC time every Wednesday for an hour

Question 24 Other: Additional Technology Concerns

- all teachers in my district were given Microsoft Surface Pros, built in haste by the lowest bidder. I have never in my life worked with such an all around terribly designed machine. Zero processing power, no cooling system, and glitchy as all heck. Had I specifically designed a computer to fail, I could not have done so more effectively. Zero stars. My assessment is harsh, I know, but accurate. I have been running a classroom from this pieeeeece of [comment removed by researcher] for three and a half year. If you had, you'd agree.
- tech restrictions
- Typically district IT does provide adequate support. For example we were supposed to train on our new McGraw Hill text and the district had not the integration work so that the training could happen
- We have zero technology for lab data collection. (Vernier probes and technology)
- Websites being blocked by district filters

Question 25 What school do you teach in?

Researchers Note: See Page 26

Question 26 Name of your district:

Researchers Note: See Page 28

Question 30 Other: Gender

Researchers Note: No information provided

Question 31 Other: Racial Categories

- Mix of three listed
- more than one

Question 32 Other: Highest Level of Education

- Ed.S

- One semester left of MEd

Question 33 Other: Path to Teaching License

- CT ARC (like KS T2T)
- I have degree and license in PE K-12, but I got certified in ESS and Biology.
- MAT
- Math Degree. 15 years later - coursework to certify.
- UKAN TEACH
- UKan Teach from KU

Question 34 Other: Courses Endorsed to Teach

- 6-12 certification in subjects selected
- Computer Science (Even though it is no longer offered), Special Education (Gifted), General Science (7-12)
- Computer Studies and 6-9th General Science
- engineering
- General Science & ESOL
- General Science Education
- Intellectual Disability
- PE K-12
- Physical Education K-12
- Physical Science (Chem & Physics)
- Science 6-12
- Special Education
- sped
- SPED Low Incidence
- technology

Question 37 Other: Grouped Grade Levels

- 10, 11, 12
- 10, 11
- 10, 11
- 10, 11 & 11, 12

- 10,11 & 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11, 12
- 10, 11 & 11, 12
- 10,11, 12
- 11, 12
- 11, 12 (10 if foreign exchange student)
- 11, 12
- 11, 12
- 11, 12
- 11, 12
- 11, 12
- 11, 12
- 11, 12
- 11, 12
- 11, 12
- 11, 12
- 11, 12
- 11, 12
- 11, 12
- 11, 12

- 11, 12
- 11, 12
- 11, 12
- 11, 12
- 6, 7, 8
- 6, 7, 8
- 9, 10 & 11, 12
- 9, 10 & 10, 11, 12
- 9, 10 Physical Science, 10, 11, 12 Chemistry, 11, 12 Physics
- 9, 10, 11, 12
- 9, 10, 11, 12
- 9, 10, 11, 12
- 9, 10, 11, 12
- 9, 10, 11, 12
- 9, 10, 11, 12
- 9, 10, 11, 12
- 9, 10, 11, 12
- 9, 10
- All
- 11, 12 Earth and Space
- 9, 10, 11, 12 Earth and Space; 9, 10, 11, 12 Environmental; 10, 11, 12 Chemistry
- 9, 10, 11 Honors Chemistry; 10, 11, 12 AP Chemistry
- Many
- 9, 10, 11 ELL Physical Science; 11, 12 Chemistry
- 10, 11
- 10, 11, 12
- Upper level science courses
- 11, 12
- We attempt to track our students, so some freshmen double up on General Science and Biology and then take A&P as sophomores. Some take Bio as Sophomores and A&P as Juniors.

Question 38 Other: Courses Currently Taught

- Agricultural Ecology.
- Anatomy
- Anatomy & Physiology
- Anatomy and Physiology
- Anatomy, Forensic Science, College Biology
- Animal Science
- AP BIOLOGY
- AP Biology/AP Chemistry
- AP Physics
- AP Physics 1
- CAPS
- CSI enrichment class
- Environmental Science, Dual Credit Chemistry, Astronomy, Integrated Science
- Food Science, Chemistry 2
- Forensic Science
- Forensic Science and A&P
- Forensic Science and Sports Medicine
- Health science
- Health Sciences
- Health sciences and biotechnical pathways
- HS A & P
- HS Anatomy & Physiology
- HS Scientific Research & Design
- Human A&P concurrent/dual enrollment
- Integrated Science
- Intro to healthcare, Forensics anatomy, and physiology
- Life Skills Science
- Material Science
- Pre IB Physics, Honors Physics, Principles of Engineering
- pre-calculus, Algebra 3
- Robotics

- Zoology

Question 39 Other: Courses Certified to Teach

- Anatomy and Physiology
- Anatomy, College Biology, Forensic Science
- AP Biology and CHEMISTRY
- AP Physics
- College Chemistry
- CTE Pathways
- Forensic Science
- Health Science
- Integrated Science
- Material Science
- Physical Science
- Pre-Calculus
- Robotic
- Zoology

Question 40 Other: Non-Science Courses Taught

- 7th Math/8th Math/Algebra I/Business Math/PE
- Advocacy
- advocacy (home room OR study hall equivalent)
- After school MS theatre
- AVID
- AVID, college prep primarily for first generation graduates
- C++ coding
- CAP (Career & Academic Planning)
- English, Math, History, Life Skills Function Living and Daily living skills
- Falls under science (Intro to Healthcare) for Health Science Pathway
- homeroom
- I proctor a zoom Spanish class.
- Intro to Early Childhood

- Introduction to Health Careers
- Pre Calculus, Alg 3
- Seminar/Advisory
- Social Emotional
- Social-Emotional
- sped math
- Sports Med
- Success Class
- Teaching as a Career

Appendix II: Invitation Email

Email Invitation - Teachers Survey

Hello [First Name],

I hope you are enjoying the spring semester 2024! I am with the Docking Institute of Public Affairs and the lead survey researcher for a survey of science teachers for the College of Education at Fort Hays State University. I am working with a team of researchers in the College interested in better understanding the experiences and needs of rural teachers in Kansas. They hope to design new professional learning opportunities to meet the needs of teachers. The survey is the first and possibly the most vital part in the early stages of the project.

They have designed an online survey, the link to which is below. I hope you will take a few minutes to complete the survey, as we need information from teachers across the state to help design and develop the professional development course or courses.

Please be assured that your responses are confidential. Analysis will be of grouped and de-identified data only, coming from many teachers from across the state. Participation is completely voluntary, and you may exit the survey at any time. The Docking Institute follows best survey practices, and we are excluding anyone under the age of 18 from the study.

The survey should take no more than 15 minutes to complete. More information about the survey is on the introduction page. Reading the information provided might help you decide whether to complete the survey or not. If you have any questions about the survey or about the survey process, please contact me at (785) 628-5563 or mswalker@fhsu.edu.

As thanks for participating in the survey, you will be asked if you would like to be included in a random drawing for one of ten \$25 gift cards. Participation is not required.

Please click on this link and continue to the online survey: [\\${!://SurveyLink?d=Take the Survey}](#)

Or copy and paste the URL into your internet browser: [\\${!://SurveyURL}](#)

Thank you!

Mike Walker
Docking Institute of Public Affairs and
Department of Sociology
160D Rarick Hall
Fort Hays State University
(785) 628-5563 or mswalker@fhsu.edu

Appendix III: Online Survey Instrument

2024 Teacher Survey- KS Rural Education Survey Docking

QINTRO Dear Science Teacher,

We invite you to take part in our survey of science teachers. The purpose of the survey is to understand the experiences of teachers in Kansas. We hope to design new professional learning options to meet the needs of teachers, and this survey is our first step.

We compiled a list of science teachers in Kansas by reviewing district web sites. If you do not teach science, there is an option below to exit before the survey begins.

Participation is completely voluntary, and any information provided will be confidential. You may exit at any time by simply closing your browser. All findings will be de-identified before report writing begins.

At the end of the survey, you will be asked to consider participating in follow-up interviews and providing input into the design of the new course. Doing so is voluntary. You will also be provided with an opportunity to participate in a random drawing for one of ten \$25 gift cards.

If you would like to continue to the survey, please select the "Yes, I will participate, and I give my consent to continue to the survey questions" option below. By selecting the "yes" option below, you are providing your informed consent to participate in the survey.

If you do not want to participate in this survey, please select "No, I will not participate." Please also select "No, I will not participate" if you are under the age of 18. If you would like to review the IRB-approved consent document before continuing, please select "Review consent document." If you do not teach science, please select "I am not a science teacher."

Then click "Go Forward >."

- Yes, I will participate and I give my consent to continue to the survey questions. (CONTINUE TO SURVEY) (1)
- No, I will not participate (EXIT) (2)
- Review consent document (3)
- I am not a science teacher (EXIT) (4)

QCONSENT PURPOSE OF SURVEY: The purpose of the survey is to understand the experiences and needs of science teachers in Kansas, and use the information gathered to help design new professional learning options for teachers.

PROCEDURES: You are being asked to complete a survey using Qualtrics online survey software. We anticipate that the survey will take approximately 15 minutes to complete.

BENEFITS: We cannot promise any benefits to you or others from your taking part in this research. However, your participation will enable you to share your ideas and contribute to the development of an online professional learning course for rural science teachers.

COMPENSATION: Although there is no compensation for taking this survey, we will ask you if you want to be included in a random drawing for one of ten \$25 gift cards. You will be asked to provide contact information if you would like to be put in the drawing. We need contact so that we can reach you in the event that you selected to receive a \$25 gift card.

RISKS/DISCOMFORTS: There are no known risks associated with completing this survey. If you feel discomfort about sharing your ideas, you can leave items blank or stop taking the survey. In the event that you feel distressed during or after the survey or drawing, you can reach out to a school or local counselor for emotional support.

CONFIDENTIALITY: You will be asked a few demographic questions, such as the number of years you have been teaching, and about the community in which you teach. If you would like to participate in the drawing, you will be asked for your name, phone number, and address. Once data collection concludes and the drawing winners are selected, names, phone numbers, and addresses, and other identifying information (such as email address) will be removed from the data set. Analysis will be conducted on the de-identified data set only. If you are selected as a drawing winner, the lead survey researcher will contact you and arrange delivery of the gift card.

The information from this research might be presented at a professional conference or published in a professional journal. All data will be de-identified and presented at the group level only. All data collected for this project will be stored in a protected manner and will only be accessible to researchers working on this project. Information obtained about you for this study will be kept confidential to the extent allowed by law.

WITHDRAWAL: You may stop answering questions at any time without penalty. Any information you have provided prior to withdrawal will be destroyed upon request. If you provide information now but change your mind later and wish to not participate, you may request to have your data removed from the data file. Information you provide will be deleted unless the request is made after the information has been de-identified. You will not be penalized in any way for changing your mind.

Please contact Mike Walker at (785) 628-5563 or mswalker@fhsu.edu to make a request.

VOLUNTARY PARTICIPATION: Your participation in the survey is voluntary and you may elect to withdraw at any time. You are also not required to agree to this Consent and Authorization form, and you may refuse to do so for any reason.

CONTACT INFORMATION Questions about the survey should be directed to Mike Walker at mswalker@fhsu.edu, 785-628-5563, 160D Rarick Hall, Fort Hays State University.

PARTICIPANT CERTIFICATION: I have read this Consent and Authorization form. I understand that I have the opportunity to ask and receive answers to any questions I have regarding the study. I understand that if I have any additional questions about my rights as a research participant, I may call (785) 628-4321, write the Office of Scholarship and Sponsored Projects (OSSP), Fort Hays State University, 600 Park St., Hays, Kansas 67601, or email irb@fhsu.edu. I agree to participate in the online survey and I affirm that I am at least 18 years old and that I have read this Consent and Authorization form.

Please select "Yes - I will participate" to proceed. Select "No - I will not participate" to exit now. Then click "Go Forward >."

- Yes, I will participate, and I give my consent to continue to the survey questions (CONTINUE TO SURVEY) (1)
- No, I will not participate (EXIT) (2)

Q1a We begin with a few questions about teaching.

How many years have you been teaching at your current school? (Please enter a whole number e.g., 0, 5, 17. If you are in your first year, enter 0). .

Q1b How many years have you been teaching overall? (Please enter a whole number e.g., 0, 5, 17. If you are in your first year, enter 0).

Q1c Finally, how many years have you been teaching science courses? (Please enter a whole number e.g., 0, 5, 17. If you are in your first year, enter 0).

Q2 How familiar are you with the Kansas Science Standards?

- Very familiar (1)
- Familiar (2)
- Somewhat familiar (3)
- Not very familiar (4)

Q3 How often do your students do each of the following in your science class(es?)

	Every Class (5)	Most Classes (4)	Sometimes (3)	A few times a year (2)	Not at All (1)
Ask questions that they will investigate in class (Q3_1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Critically synthesize information from different sources (i.e., text or media) (Q3_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Create a physical model of a scientific phenomenon (like creating a representation of the solar system) (Q3_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop a conceptual model (not provided by textbook or teacher) based on data or observations (Q3_4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use models to predict outcomes (Q3_5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explain the reasoning behind an idea (Q3_6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supply evidence to support a claim or explanation (Q3_7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make an argument that supports or refutes a claim (Q3_8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Respectfully critique other students' (Q3_9)

Consider alternative explanations (Q3_10)

Revise explanations as they gain new partial understandings of core ideas over time (Q3_11)

Design, test, and evaluate solutions to engineering problems (Q3_12)

Work together to figure out important science ideas (Q3_13)

Continually revise models, explanations, and claims during a unit (Q3_14)

Develop and use a mathematical model to design or analyze a scientific investigation (Q3_15)

Analyze and interpret data acquired in an investigation (Q3_16)

Q4 For what PERCENTAGE of your students are the following statements true?

	Almost all (75%-100%) (4)	Most (50%-74%) (3)	Some (25%-49%) (2)	Few (0%-24%) (1)
They are interested in the topics we explore during science class. (Q4_1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They seek out ways to extend their learning outside of science class. (Q4_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They are engaged in the activities we do during science class. (Q4_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They see themselves as scientists during science class. (Q4_4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They see connections between what they are learning in science class and their everyday lives. (Q4_5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They care about the phenomena featured in curriculum and assessments. (Q4_6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5 To what extent are the following a priority for your science teaching?

	High priority (4)	Moderate priority (3)	Low priority (2)	Not a priority (1)
Having my students view themselves as doing the work of scientists during science class. (Q5_1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having my students understand the big ideas of science. (Q5_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using students' interests to inform the design of curriculum and assessments. (Q5_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning my teaching so it builds on students' ideas and questions. (Q5_4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fixing student misconceptions right away. (Q5_5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supporting students in using correct science vocabulary. (Q5_6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pre-teaching science vocabulary before learning science ideas. (Q5_7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6 How often do the following occur in your science classes?

	Daily (5)	Every few days (4)	Weekly (3)	Monthly (2)	Not at All (1)
Students' contributions enhance the learning of the classroom community. (Q6_1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students ask questions that they want to investigate. (Q6_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students adopt roles in the classroom that are science-related (e.g., claim checker, evidence checker) rather than procedural (e.g., materials manager, recorder, reporter). (Q6_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I help students figure out things on their own rather than giving them the answers. (Q6_4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students share their interests with me (e.g., through surveys, exit tickets, journal entries, etc) to plan instruction. (Q6_5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Students discuss how science is a human endeavor influenced by scientists' values, beliefs, and ways of knowing. (Q6_6)

Students understand why they are doing what they are doing in science class. (Q6_7)

Students use their ways of speaking, knowing, acting, and valuing to make sense of the world. (Q6_8)

Students use languages other than English to communicate in science class. (Q6_9)

I use cultural knowledge from families and communities to focus or guide science instruction. (Q6_10)

Students draw on their everyday and scientific ways of knowing. (Q6_11)

Q7 What instructional materials do you currently use in science instruction? (Select all that apply)

- Active Chem/ Active Biology (1)
 - Amplify Science (2)
 - Conceptual Physics/Physical Science (3)
 - OpenSciEd (4)
 - I write my own curriculum (5)
 - InquiryHub (6)
 - Interactive Science (Pearson) (7)
 - McGraw-Hill (8)
 - My district writes their own curriculum (9)
 - NextGen Storylines (10)
 - POGIL Chemistry (11)
 - Social Media Sites (Teachers Pay Teachers, Pinterest) (12)
 - Modeling Instruction (physics and/or chemistry) (13)
 - Other: _____ (14)
-

Q8 How closely are your science instructional materials aligned to Kansas Science Standards?

- All aligned (1)
- Mostly aligned (2)
- Somewhat aligned (3)
- Not aligned (4)
- Unsure (5)

Q9 In this section, we are asking about your community and school context so we can better design professional learning to meet your needs.

What do you most enjoy about teaching in a rural community?

Q10 What is unique about your school community that is important for us to know about when designing science professional learning to serve your needs?

Q11 What specific challenges do you face as a science teacher at your school?

Q12 Please tell us a little about your professional learning (also called PD or inservice) experiences.

Over the course of your teaching career, how much of your professional learning has been science specific?

- All (1)
- Most (2)
- Some (3)
- A little (4)
- None (5)

Q13 Within the last three years, how much professional learning have you had in the following areas?

	A lot (1)	Some (2)	A little (3)	None (4)
Science instruction (in general) (Q13_1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Science instruction related to Kansas Science Standards (Q13_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assessment practices (in general) (Q13_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assessing students' understanding of the Kansas Science Standards (Q13_4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supporting emerging multilingual students (English learners) (Q13_5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Culturally responsive teaching (Q13_6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Emotional Learning (Q13_7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Structured Literacy (Q13_8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inclusion (Q13_9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using phenomena to plan/carry out instruction (Q13_10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Classroom technology (Q13_11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Classroom management (Q13_12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14 What was/were the source(s) of that professional learning you listed in the previous question?
(Select all that apply.)

- My school (1)
 - My district (2)
 - University coursework (3)
 - National Association for Science Teaching (NSTA) (4)
 - Kansas Association of Teachers of Science (KATS) (5)
 - Self-directed (6)
 - Other: _____ (7)
-

Q15 Of the areas of professional learning that you received, which were the MOST influential on your classroom practices? (Choose up to 3.)

- Science instruction (in general) (1)
 - Science instruction related to the Kansas Science standards (2)
 - Assessment practices (in general) (3)
 - Assessment practices related to the new Kansas Science Standards (4)
 - Supporting emerging bi- or multilingual students (English learners) (5)
 - Culturally responsive teaching (6)
 - Social Emotional Learning (7)
 - Structured Literacy (8)
 - Inclusion (9)
 - Using phenomena to plan/carry out instruction (10)
 - Classroom technology (11)
 - Classroom management (12)
 - Other (please describe): _____ (13)
-

Q16 To what extent do you agree with the following statements?

	Completely agree (4)	Somewhat agree (3)	Somewhat disagree (2)	Completely disagree (1)
I enjoy opportunities to develop my professional and classroom practices. (Q16_1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I attend a professional learning workshop, I expect the instructor to tell me how to teach. (Q16_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I attend a professional learning workshop, I expect the instructor to create opportunities for me to figure something out . (Q16_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have found school-based professional learning to be valuable. (Q16_4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q17 When does school-provided professional learning usually occur? (Select all that apply.)

- On designated school days (e.g., release days, inservice days) (1)
- During the school day (e.g., plan time) (2)
- After school (3)
- During the summer (4)
- Other (5) _____

Q18 When does other professional learning (not provided by the school) that you participate in usually occur? (Select all that apply.)

- After school (1)
- During the school day (2)
- Evenings (3)
- Weekends (4)
- Summer (5)
- I do not participate in non-school professional learning (6)

Q19 When do you prefer to take part in professional learning not provided by your school? (Select all that apply.)

- During the school day (1)
- After school (2)
- Evenings (3)
- Weekends (4)
- Summer (1)

Q20 How comfortable are you with participating in virtual professional learning?

- Comfortable (1)
- Somewhat comfortable (2)
- Somewhat uncomfortable (3)
- Uncomfortable (4)

Q21 Which of the following virtual tools do you have experience with AND are comfortable using? (Select all that apply.)

- Google Docs (1)
- Google Forms (2)
- Google Jamboard (3)
- Google Slides (4)
- Google Hangouts (5)
- Canvas (6)
- Peardeck (7)
- Zoom (8)
- Microsoft Teams (9)

Q22 At home, I do NOT have access to (select all that apply):

- Reliable high-speed internet (1)
- A computer capable of video calls (2)
- A webcam and microphone (3)
- Quiet space to complete virtual PDs (4)

Q23 At school, I do NOT have access to (select all that apply):

- Reliable high-speed internet (1)
- A computer capable of video calls (2)
- A webcam and microphone (3)
- Quiet space to complete virtual PDs (4)

Q24 Do you have any additional technology concerns that may hinder your participation in a virtual professional learning experience? Please describe them.

- Yes (please describe): (1) _____
- No (2)

Q25 What school do you teach in?

Q26 Name of your district:

Q27 What grade levels are taught in your school? (Select all that apply.)

- K (1)
- 1 (1.5)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)
- 8 (8)
- 9 (9)
- 10 (10)
- 11 (11)
- 12 (12)
- College Credit/ Dual Enrollment (13)

28 What is the size of a typical graduating class at your school?

- <20 (1)
- 20-59 (2)
- 60-149 (3)
- 150-299 (4)
- 300+ (5)

Q29 Including yourself, how many teachers teach at least one secondary science class?

- Just me (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5+ (5)

Q30 Gender

- Male (1)
- Female (2)
- Other: (3) _____
- Prefer not to say (4)

Q31 With which racial categorie(s) do you identify?

- American Indian/ Alaska Native (1)
- Asian/ Asian American (2)
- Black/ African American (3)
- Hispanic/ Latinx (4)
- White/ Caucasian (5)
- Native Hawaiian/ Pacific Islander (6)
- Other: (7) _____
- Prefer not to answer (8)

Q32 What is your highest level of formal education?

- Associate's degree (ex: AA) (1)
- Bachelor's degree (ex: BA, BSEd, BS) (2)
- Master's degree (ex: MA, MATL, MEd) (3)
- Doctoral Degree (ex: EdD, PhD) (4)
- Other: (5) _____

Q33 Which of the following best describes the path you took to earn your teaching license?

- Traditional program (1)
- T2T (2)
- Post-baccalaureate program (3)
- Other (please describe): (4) _____

Q34 In what subjects are you endorsed to teach? (also called licensed, credentialed, specializations)
(Select all that apply.)

- Biology (1)
- Chemistry (2)
- Earth and Space Science (3)
- Physics (4)
- Science (5-8) (5)
- Math (6)
- English/Language Arts (ELA) (7)
- English as a Second Language (ESL, EFL, ELL) (8)
- Fine arts (art, music) (9)
- Social Studies (10)
- No credentials in these areas (11)
- Other: (12) _____

Q35 What grade levels are you teaching this year? (2023-24) (Select all that apply.)

- Pre-K (.5)
- K (1)
- 1 (1.5)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)
- 8 (8)
- 9 (9)
- 10 (10)
- 11 (11)
- 12 (1)
- College Credit/Dual Enrollment (1)

Q36 Do you teach any multi-grade classes?

- Yes (1)
- No (2)

Q37 Which grades are grouped together?

Q38 Which courses do you teach? (Select all that apply.)

- Elementary science (1)
- Integrated middle-level science (2)
- MS Life Science (3)
- MS Physical Science (4)
- MS Earth & Space Science (5)
- HS Physical science (6)
- HS Biology (7)
- HS Earth & Space Science (8)
- HS Chemistry (9)
- HS Physics (10)
- Other (please describe): (11) _____

Q39 Of the courses that you teach, are you fully certified, provisionally or emergency certified, or not certified presently to teach the course?

	I am <u>Fully Certified</u> to teach this course. (1)	I am <u>Provisionally or Emergency Certified</u> to teach this course. (2)	I am <u>not certified</u> to teach this course. (3)
Elementary science (Q39_1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrated middle-level science (Q39_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MS Life Science (Q39_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MS Physical Science (Q39_4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MS Earth & Space Science (Q39_5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HS Physical science (Q39_6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HS Biology (Q39_7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HS Earth & Space Science (Q39_8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HS Chemistry (Q39_9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HS Physics (Q39_10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please describe): (Q39_11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q40 Do you teach any non-science courses?

- Yes (please describe): (1) _____
- No (2)

Q41 During your own K-12 education, did you attend a rural school?

- Yes (1)
- No (2)

Q42 That was our last question about education. As thanks for completing this questionnaire, FHSU's College of Education is giving away ten \$25 Amazon gift cards to randomly selected survey respondents. Would you like to be included in the drawing?

- Yes, I would like to participate in the drawing. (1)
- No, I am not interested in participating in the drawing. (2)

Q43 Please provide the following information so that we may contact you about the drawing. Then select "Yes, I give my consent to be contacted" below (the next question).

- Name (1) _____
- Phone Number (2) _____
- Email Address (3) _____
- Street Address (4) _____
- City, State, ZIP (5) _____

Q44 Do we have permission to contact you using the information you entered above?

- Yes, I give my consent to be contacted. (1)
- No, I changed my mind and I do not want to be contacted. (2)

QEXIT We are at the end of the survey. Thank you for you time!

If you agreed to participate in the interview and/or if you are a drawing winner, we will reach out to you mid-May.

NOTE: Clicking on the “Go Forward >” on this page will finalize and submit this survey. If you would like to review your answers before submitting the survey, please use the “< Go Back” button. If you are ready to submit your responses and exit the survey, please select Go Forward > now. If you have any questions about this survey, please contact Mike Walker at mwalker@fhsu.edu.

End of Block: Quick Poll
