

Vision Week 5: Cross Disciplinary Questions

November 30, 2021

Video Transcript

Note: This Transcript was Automatically generated via Zoom, please reach out if you spot any errors.

1

00:04:47.100 --> 00:04:55.800

Brandie Waid: Hello everyone I don't know does anyone else did did it cut out the music cut out for anyone else, or just pile.

2

00:04:56.850 --> 00:04:57.420

Brandie Waid: It cut out.

3

00:04:58.380 --> 00:05:01.080

Dewey Gottlieb (he/him): I heard, I heard it to just just now, I think.

4

00:05:01.500 --> 00:05:05.370

Brandie Waid: So okay sorry Pal seems like it seems like a huge problem.

5

00:05:11.250 --> 00:05:30.690

Brandie Waid: But we'll go ahead and get started, so I hope everyone's Have a nice week I know you know coming off the break sometimes can be kind of rough but also sometimes kind of rejuvenating depending on where you are with things so we'll go ahead and start.

6

00:05:31.710 --> 00:05:38.010

Brandie Waid: By going around in saying one thing that we are looking forward to.

7

00:05:38.340 --> 00:05:39.840

Brandie Waid: In the month of December.

8

00:05:40.830 --> 00:05:56.880

Brandie Waid: So one thing I am looking forward to is having a couple of days off from the next in the next week because I stayed up until six in the morning, today, to me, the deadline, and I am going to sleep for a couple of days.

9

00:05:58.470 --> 00:06:02.070

Brandie Waid: to catch up, because i'm not 20 anymore.

10

00:06:03.630 --> 00:06:04.500

Brandie Waid: anyone else.

11

00:06:09.420 --> 00:06:15.780

Kevin Dykema: i'm looking forward to seeing my in laws at the end of the month we haven't seen them in two years, face to face because of Coleman.

12

00:06:16.200 --> 00:06:18.150

Kevin Dykema: And will consume this year so we're looking forward to that.

13

00:06:20.550 --> 00:06:21.090

Kevin Dykema: awesome.

14

00:06:30.240 --> 00:06:33.240

Trena Wilkerson: just looking forward to a little time off what campaign, they just.

15

00:06:34.320 --> 00:06:34.680

Trena Wilkerson: know.

16

00:06:35.940 --> 00:06:39.870

Trena Wilkerson: And a little extra time to get some things done and also visit.

17

00:06:39.870 --> 00:06:41.430

Trena Wilkerson: With family so.

18

00:06:43.830 --> 00:06:44.730

Brandie Waid: that's a lovely.

19

00:06:49.980 --> 00:06:54.420

Kyle: So our department is in the midst of hiring three new people.

20

00:06:55.320 --> 00:06:56.190

Kyle: So I am.

21

00:06:56.610 --> 00:07:03.090

Kyle: Both looking forward to that process being finished and looking forward to three new people saying that they want to come work with us.

22

00:07:03.570 --> 00:07:04.980

Brandie Waid: wow are you on.

23

00:07:06.540 --> 00:07:08.520

Brandie Waid: Please tell me you're not on North research base.

24

00:07:10.590 --> 00:07:19.380

Kyle: it's auclair so we have six people in our department i'm the chair of the committee, and everyone who's not a department chair is on the committee.

25

00:07:19.650 --> 00:07:20.940

Brandie Waid: So here.

26

00:07:21.510 --> 00:07:23.730

Kyle: yeah it's a it's quite a task.

27

00:07:27.510 --> 00:07:28.320

Brandie Waid: How are you doing.

28

00:07:29.670 --> 00:07:29.940

Dewey Gottlieb (he/him): Oh.

29

00:07:29.970 --> 00:07:34.620

Dewey Gottlieb (he/him): yeah nothing exciting just yeah looking forward to some time off at the end of December.

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00:07:36.750 --> 00:07:42.990

Dewey Gottlieb (he/him): Hopefully, take some time to clean out some reorganize stuff that's been sitting and piling up for a while.

31

00:07:44.370 --> 00:07:46.680

Dewey Gottlieb (he/him): Actually i'm looking forward to that, even though I hate cleaning.

32

00:07:47.700 --> 00:07:49.350

Dewey Gottlieb (he/him): I am looking forward to getting a chance to.

33

00:07:50.370 --> 00:07:51.810

Dewey Gottlieb (he/him): be organizing stuff so.

34

00:07:54.270 --> 00:07:55.650

Dewey Gottlieb (he/him): I feel that that's.

35

00:07:55.710 --> 00:07:57.780

Brandie Waid: What that is exciting I don't know what you're talking about.

36

00:07:59.520 --> 00:08:02.760

Brandie Waid: sounds exciting for me all the excitement I gonna handle.

37

00:08:04.740 --> 00:08:17.880

Brandie Waid: Alright cool thanks for hearing me yet again um Okay, so we are going to go ahead and get started um I don't know if i've.

38

00:08:18.660 --> 00:08:35.550

Brandie Waid: mentioned kind so many times and so many contexts, so I don't know if i've done that in this one so i'll just go ahead and say if this image is of a former contestant from canada's drag race, who is named kind Santos.

39

00:08:36.990 --> 00:08:44.790

Brandie Waid: And if you don't know kindness kindness is a mathematics communicator and makes tick tock videos i'm.

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00:08:46.020 --> 00:08:48.840

Brandie Waid: Talking about math in drag so.

41

00:08:50.010 --> 00:08:52.260

Brandie Waid: I suggest checking carrying out.

42

00:08:53.310 --> 00:08:57.930

Brandie Waid: The accounts, I think all of the handles are online and it's.

43

00:08:59.280 --> 00:09:00.960

Brandie Waid: put it in the chat.

44

00:09:02.370 --> 00:09:02.730

Brandie Waid: On.

45

00:09:04.440 --> 00:09:06.090

Brandie Waid: ky and he.

46

00:09:07.920 --> 00:09:10.050

Brandie Waid: don't believe kind has.

47

00:09:13.410 --> 00:09:14.400

Brandie Waid: Actually I do.

48

00:09:15.900 --> 00:09:31.710

Brandie Waid: I know kinds really active on Twitter and tick tock possibly on instagram as well not sure about Facebook how active is kindness on Facebook cuz I don't particularly like Facebook, but that's just me um.

49

00:09:33.150 --> 00:09:48.330

Brandie Waid: OK so again brave space so we've got all of the things that abrasiveness entail, which I think we know by now um, are there any items that we'd like to add or.

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00:09:49.920 --> 00:09:52.890

Brandie Waid: Maybe that we think are working for us that we'd like to remove.

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00:09:53.970 --> 00:09:57.660

Brandie Waid: As far as what we'll do to maintain the brave space.

52

00:10:15.270 --> 00:10:20.850

Brandie Waid: Alright, nothing comes to mind immediately, and let me know if something does come to mind eventually.

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00:10:21.960 --> 00:10:24.480

Brandie Waid: And i'd be happy to add it just send me an email or whatever.

54

00:10:25.650 --> 00:10:45.420

Brandie Waid: For our last session next time that is wild anyway, this flew by so one of your homework items supposed to look through the i'm wondering, that the students came up with based on this image, which is something that we had done.

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00:10:46.590 --> 00:10:50.370

Brandie Waid: In our last session and just kind of.

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00:10:52.290 --> 00:10:58.500

Brandie Waid: Think about like what kind of mathematics, this might inspire inspire and how it might.

57

00:11:01.620 --> 00:11:04.200

Brandie Waid: You know stick to the tenants of mathematical inquiry.

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00:11:05.490 --> 00:11:13.440

Brandie Waid: So the first wondering and i'm going to take you through now that you've actually seen some of it i'm going to take you through what we did.

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00:11:14.550 --> 00:11:30.270

Brandie Waid: Some of the things that were inspired by these questions and then i'm going to send you in a breakout room, so you can kind of play with some of the things that were created and then come up with any questions you might have or any thoughts that come to mind, or whatever.

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00:11:31.470 --> 00:11:40.800

Brandie Waid: Based on some of these activities, so this first one, the wondering that students had posed based on this image was.

61

00:11:42.870 --> 00:11:55.110

Brandie Waid: That 5.6% of the population is LGBT Q plus or LGBT and how many people is that they wanted to know like based on the US population like to get a number.

62

00:11:55.950 --> 00:12:02.880

Brandie Waid: So that was a pretty straightforward question that we could like Google, how many people are in the United States, and you know figure that out.

63

00:12:03.930 --> 00:12:07.800

Brandie Waid: and engage in some mathematics, the second question.

64

00:12:08.970 --> 00:12:19.890

Brandie Waid: That the students came up with, though, was when when would we expect the number of LGBT people in the US to reach 10% 20%.

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00:12:21.030 --> 00:12:28.020

Brandie Waid: And then, a food for thought that I put for y'all to think about list to answer this question what what assumptions, we need to make.

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00:12:28.500 --> 00:12:39.150

Brandie Waid: Why does this matter and with the image be sufficient or would we need more data and so where where do we find the data, and these are all questions I also post to the students.

67

00:12:40.140 --> 00:12:55.290

Brandie Waid: Which is why they run the slide because I just left some other side from when I posted to the students but in our conversations Well, first of all, were there any thoughts that you had when you saw this question, the second wondering, as far as.

68

00:12:57.450 --> 00:12:59.970

Brandie Waid: Things that what you might need or.

69

00:13:02.820 --> 00:13:04.140

Brandie Waid: How we might find the answer.

70

00:13:32.700 --> 00:13:35.220

Brandie Waid: How might we go about figuring out this.

71

00:13:47.760 --> 00:13:52.740

Dewey Gottlieb (he/him): Probably a different graphical representation made out how can.

72

00:13:54.720 --> 00:13:56.190

Dewey Gottlieb (he/him): I think it's if it's based on.

73

00:13:59.040 --> 00:14:08.280

Dewey Gottlieb (he/him): Just do that, but the 5.6 or even looking at ahead at a 10% and 20% that's aggregating all the different.

74

00:14:09.330 --> 00:14:11.850

Dewey Gottlieb (he/him): groups into one category.

75

00:14:13.020 --> 00:14:22.650

Dewey Gottlieb (he/him): And then seats i've seen that aggregate data point over time would probably be a little easier to look look for possible trend that you can.

76

00:14:23.880 --> 00:14:24.750

Dewey Gottlieb (he/him): create a model for.

77

00:14:25.380 --> 00:14:31.410

Brandie Waid: yeah and that's a single data point so like making a model for single data point and look like literally anything.

78

00:14:35.820 --> 00:14:38.820

Brandie Waid: Any anyone else have any other thoughts I.

79

00:14:39.300 --> 00:14:40.200

Brandie Waid: want to add to that.

80

00:14:40.890 --> 00:14:50.940

Kevin Dykema: living with three data points to be trying to 2014 percentage the 2017 2020 that still doesn't feel like it's enough data to to be able to fully recognize.

81

00:14:51.330 --> 00:15:02.460

Kevin Dykema: These exponential is linear is that quadratic is it something other than than one of those there's a lot of assumptions, I think that you make even just with those three data points.

82

00:15:04.170 --> 00:15:05.280

Kevin Dykema: yeah I agree.

83

00:15:05.790 --> 00:15:12.030

Brandie Waid: that's a great point um, and these are actually like the things you're bringing up are exactly what we talked about.

84

00:15:12.420 --> 00:15:28.980

Brandie Waid: i'm like, why does it matter how many data points to a that we have, why does it matter what assumptions were making what makes an accurate model, or what makes a more accurate model those sorts of things, so what we did oops.

85

00:15:32.550 --> 00:15:34.980

Brandie Waid: Wait what happened to my thing.

86

00:15:36.810 --> 00:15:38.370

Brandie Waid: hold on, let me get out of this.

87

00:15:39.810 --> 00:15:41.220

Brandie Waid: I had a.

88

00:15:43.380 --> 00:15:44.670

Brandie Waid: Why did this get this.

89

00:15:47.220 --> 00:15:47.550

Brandie Waid: Okay.

90

00:15:48.660 --> 00:16:08.220

Brandie Waid: So, based on like kind of what you are saying the students identified that they needed more data points and then even more information, so we went digging and we came up with this graph from city stone and then we talked about like.

91

00:16:09.480 --> 00:16:19.020

Brandie Waid: What kind of first of all like, how do we know if this isn't reliable source like, how do you determine those sorts of things Those were some conversations we had as well.

92

00:16:20.010 --> 00:16:28.200

Brandie Waid: And then we said Okay, based on what the graph looks like what kind of function, could it be does it look like the function.

93

00:16:29.400 --> 00:16:45.810

Brandie Waid: You know what are different ways we could model things and these kids were from anywhere from incoming ninth graders to incoming 12th graders so there was a range of knowledge and room, as far as like what even a function was.

94

00:16:46.680 --> 00:16:53.400

Brandie Waid: So we had to like you know kind of build some build some foundational knowledge across.

95

00:16:53.910 --> 00:17:10.560

Brandie Waid: So to do that first we kind of went into decimals and just started playing, and we were like Okay, what is a quadratic function let's try it and you know the older kids got to lead the way for the younger kids to show them some of the the basic functions that they were unfamiliar with.

96

00:17:11.700 --> 00:17:12.570

Brandie Waid: But then.

97

00:17:13.740 --> 00:17:15.090

Brandie Waid: After that.

98

00:17:16.680 --> 00:17:24.450

Brandie Waid: I designed this decimals oh I don't think I drop this in the chat so i'll do that these are, this is a little.

99

00:17:25.920 --> 00:17:26.850

Brandie Waid: um.

100

00:17:28.980 --> 00:17:30.450

Brandie Waid: I created this does most.

101

00:17:36.690 --> 00:17:48.390

Brandie Waid: graph I guess me this graph but of project for them to explore what kind of model might be best appropriate.

102

00:17:49.560 --> 00:18:02.070

Brandie Waid: So we went through, and we look, these are all the data points that we're in and I showed them how to create this so they would also have an idea of how to use those mosca some had never used those before.

103

00:18:03.750 --> 00:18:06.540

Brandie Waid: So we looked at, you know if we were to draw a line.

104

00:18:07.800 --> 00:18:22.110

Brandie Waid: What you know linear regression how well does that fit the data, what do some of these things mean and like at what point, like the R squared the are and at what point do they stop being reliable indicators like for various models.

105

00:18:23.640 --> 00:18:33.120

Brandie Waid: We looked you know at the quadratic we've had them like zoom in as close as they could get to see you know what's going on.

106

00:18:34.380 --> 00:18:48.360

Brandie Waid: They did, and then they looked at all of them, you know cubic they looked at quarter and then they also looked at exponential functions logarithmic functions and the like to see what might be the best.

107

00:18:49.530 --> 00:18:53.580

Brandie Waid: model, and now that looks like a nightmare but i'm.

108

00:18:56.310 --> 00:19:05.310

Brandie Waid: went through and kind of compared I mostly had them like look through two at a time compared to at a time which one's better to start eliminating.

109

00:19:06.210 --> 00:19:18.630

Brandie Waid: um and then we also talked about kind of what are the limitations in the assumptions of using any of these regression models because, like you know if we're using, for example.

110

00:19:20.580 --> 00:19:21.960

Brandie Waid: If we're using.

111

00:19:25.680 --> 00:19:31.110

Brandie Waid: If we're using a quadratic function, what kind of assumption does this make.

112

00:19:32.550 --> 00:19:33.000

Brandie Waid: Like.

113

00:19:34.110 --> 00:19:35.250

Brandie Waid: Right now we're at.

114

00:19:36.360 --> 00:19:44.700

Brandie Waid: 5.6% so and that was 2020 so in 2035.

115

00:19:46.080 --> 00:19:52.950

Brandie Waid: or 2060 Does that mean that you know.

116

00:19:54.300 --> 00:20:07.980

Brandie Waid: Whatever about 65% of people are going to identify as LGBT Q plus like probably not that's my best Rommel to us because that doesn't seem quite realistic.

117

00:20:08.820 --> 00:20:19.290

Brandie Waid: Although they were like yes, of course, I was like okay sure um and then you know similar to this do we think it will increase and then decline.

118

00:20:19.620 --> 00:20:30.150

Brandie Waid: i'm like Why would that make sense if that were the case, do we think at some point, you know the identification will kind of Plateau.

119

00:20:30.660 --> 00:20:43.350

Brandie Waid: um so Those are the kinds of conversations we had about you know what makes sense in this context, especially given the context and what might not and and used our model to.

120

00:20:43.770 --> 00:20:58.200

Brandie Waid: figure out, you know okay so, when will it when could we expect based on the model that we select it's your reach 10% or 20% and like what is a reasonable assumption for like where it would stop growing.

121

00:20:59.160 --> 00:21:08.610

Brandie Waid: You know, in that case so i'm going to pause here and see if any of you have any questions or thoughts that came up while I was talking about that.

122

00:21:15.540 --> 00:21:21.840

Kevin Dykema: I want to fascinating how many of those models came so close to getting with all those dots that it's.

123

00:21:22.200 --> 00:21:35.250

Kevin Dykema: I mean it's a it's a rich data set to talk about you have you shared all the different files that could be made him know was expecting one of them to be glaringly obvious that this is what it was and it's you can make a good, solid argument for four or five of those.

124

00:21:36.000 --> 00:21:38.490

Brandie Waid: yeah say I was also surprised.

125

00:21:41.610 --> 00:21:42.150

Brandie Waid: anyone else.

126

00:21:45.660 --> 00:21:49.260

Kyle: I do think it's a really interesting question to.

127

00:21:51.030 --> 00:21:55.980

Kyle: Consider how our culture constricts sexuality.

128

00:21:57.510 --> 00:22:14.130

Kyle: And if we think about sexuality as a spectrum it's there are probably a whole lot more people that would identify as queer if it weren't so taboo, and so my in my head, I do think, at some point will reach 50% of the population that.

129

00:22:15.300 --> 00:22:19.140

Kyle: admits to the spectrum of their sexuality.

130

00:22:20.550 --> 00:22:24.060

Kyle: So I like it, that your students were like some point is going to be 65 or.

131

00:22:24.060 --> 00:22:28.410

Kyle: 70% like yeah I agree with your students.

132

00:22:29.640 --> 00:22:32.310

Brandie Waid: yeah hmm I would love that.

133

00:22:35.460 --> 00:22:37.020

Brandie Waid: And there was also um.

134

00:22:37.530 --> 00:22:40.740

Brandie Waid: Something I found that was interesting, I think it was in the context of this.

135

00:22:43.050 --> 00:22:43.770

Brandie Waid: See.

136

00:22:44.850 --> 00:22:46.350

Brandie Waid: Was it this one, no.

137

00:22:51.960 --> 00:22:54.090

Brandie Waid: I think it was this model.

138

00:22:58.830 --> 00:23:00.420

Brandie Waid: yeah um.

139

00:23:01.440 --> 00:23:07.710

Brandie Waid: I think it was this model, but there was one student who had like a good point.

140

00:23:08.760 --> 00:23:12.480

Brandie Waid: Although, in the context of this model, maybe not so much because of the years.

141

00:23:13.560 --> 00:23:16.620

Brandie Waid: But she brought up a point that.

142

00:23:18.810 --> 00:23:31.080

Brandie Waid: Like if we're looking at this model she also wondered historically how the data would shift the model, particularly given the fact that kind of sexuality over time.

143

00:23:32.130 --> 00:23:44.610

Brandie Waid: Has the way it's been perceived has changed it wasn't until basically the 1940s or 50s where things really started to take a turn and people.

144

00:23:45.240 --> 00:23:59.460

Brandie Waid: kind of started to care like it was kind of people knew that there were queer people before them, but it was less talked about, or even like cared about like whatever you do you boo boo sort of thing but.

145

00:24:01.200 --> 00:24:10.620

Brandie Waid: It wasn't until around that time that it started to be criminalized and things started, like the laws started to really restrict movement.

146

00:24:10.980 --> 00:24:22.500

Brandie Waid: um so her point was like it'd be interesting to go back now that we have data but it'd be interesting to think about it, through a historical lens in which one of these models might indicate like.

147

00:24:22.830 --> 00:24:37.350

Brandie Waid: Maybe there were more at a certain time, maybe at the turn of the century, and then maybe it declined, and maybe it's the client even more during the AIDS epidemic and then you know, possibly is on the rise, now so.

148

00:24:38.790 --> 00:24:49.500

Brandie Waid: Definitely some rich conversations and inter disciplinary connections that were being made, which was pretty cool to see.

149

00:24:51.720 --> 00:24:52.050

Brandie Waid: yeah.

150

00:24:53.820 --> 00:24:55.020

Brandie Waid: That was that question.

151

00:24:57.840 --> 00:25:03.480

Brandie Waid: The next question was about Germany, because one of our students was from Germany.

152

00:25:04.680 --> 00:25:09.150

Brandie Waid: So her question was wondering what the what the numbers look like for Germany.

153

00:25:10.410 --> 00:25:33.480

Brandie Waid: Based on you know the original data set and obviously the original that would not be sufficient to answer that question, so we did some digging and we found this data set that shows the LGBT Q plus population in Germany in 2016 That was the most recent data set.

154

00:25:35.130 --> 00:25:38.100

Brandie Waid: And, as well as other European countries.

155

00:25:39.570 --> 00:26:01.830

Brandie Waid: And she said that attract for her because she found that Germany was germany's laws were more inclusive than the rest of Europe and the United States and what she had seen elsewhere, which is also interesting historically because Germany, which is often not talked about the Germany.

156

00:26:04.080 --> 00:26:09.060

Brandie Waid: Like the individuals that were sent to the Holocaust, the concentration camps included.

157

00:26:10.350 --> 00:26:21.540

Brandie Waid: gay men in particular and transgender women, so their acceptance was obviously not good, not even too long ago and and here's where they are they're ahead of us so.

158

00:26:22.050 --> 00:26:31.110

Brandie Waid: That is a hopeful turn of events, so we did some calculations for that figured out how many people were in Germany.

159

00:26:31.920 --> 00:26:54.510

Brandie Waid: um and then we pose the question if Germany follow the similar trends and increasing percentage of people identifying as LGBT Q plus over the years, what would we expect to be the number of LGBT people in 2020 and what would i'm sure when would we expect Germany to hits.

160

00:26:55.890 --> 00:26:58.020

Brandie Waid: 10% or 20%.

161

00:26:59.070 --> 00:27:20.790

Brandie Waid: So, based on what we did here with the data sets how like how could students go about like applying their regression model or their regression function to a specific data point for Germany if they're making similar assumptions like similar.

162

00:27:23.280 --> 00:27:25.980

Brandie Waid: patterns of growth if that makes sense.

163

00:27:35.730 --> 00:27:37.110

Brandie Waid: I was like no thanks.

164

00:28:00.690 --> 00:28:11.280

Brandie Waid: So again, the question is germany's data point was 7.4% so if we took whatever model we landed on.

165

00:28:13.980 --> 00:28:16.380

Brandie Waid: say the growth is modeled by.

166

00:28:18.150 --> 00:28:18.630

You know.

167

00:28:20.790 --> 00:28:23.490

Brandie Waid: The natural log say we landed on that.

168

00:28:26.400 --> 00:28:27.630

Brandie Waid: But Germany in.

169

00:28:28.890 --> 00:28:30.330

Brandie Waid: Instead of being.

170

00:28:31.980 --> 00:28:33.510

Brandie Waid: Here buzz.

171

00:28:34.710 --> 00:28:36.150

Brandie Waid: When I say 7.6.

172

00:28:40.740 --> 00:28:41.490

Brandie Waid: around here.

173

00:28:42.840 --> 00:28:52.710

Brandie Waid: Like, how can we have students use that model to fit it to possibly investigate German trends or wouldn't even make sense.

174

00:28:54.810 --> 00:28:55.350

Brandie Waid: To do that.

175

00:29:29.340 --> 00:29:34.290

Dewey Gottlieb (he/him): devoid of context sure just in a pure mathematical sense, you could do that.

176

00:29:36.060 --> 00:29:36.330

But.

177

00:29:37.950 --> 00:29:39.510

Dewey Gottlieb (he/him): be thinking about the.

178

00:29:40.770 --> 00:29:41.880

Dewey Gottlieb (he/him): Major.

179

00:29:44.130 --> 00:29:45.690

Dewey Gottlieb (he/him): Cultural shifts are you been.

180

00:29:46.980 --> 00:29:54.000

Dewey Gottlieb (he/him): Policy shifts in the in the countries, for you know for the United States, which for legalization of marriage in 2016.

181

00:30:00.210 --> 00:30:00.720

Brandie Waid: One of those.

182

00:30:01.680 --> 00:30:04.650

Dewey Gottlieb (he/him): Before that Obama was still practicing right so could have been.

183

00:30:04.710 --> 00:30:05.310

Oh.

184

00:30:06.870 --> 00:30:07.170

Brandie Waid: yeah.

185

00:30:08.010 --> 00:30:08.460

yeah.

186

00:30:14.310 --> 00:30:19.650

Dewey Gottlieb (he/him): And I mean even even the tourism, even if your students have this question as well about.

187

00:30:20.880 --> 00:30:21.180

Dewey Gottlieb (he/him): You know.

188

00:30:22.860 --> 00:30:40.980

Dewey Gottlieb (he/him): How many question of how the collecting the data what question is to collect the data about how many people are identify as LGBT you know there's a nuance to that about how many people are comfortable admitting that's a question that and how many people actually are.

189

00:30:42.000 --> 00:30:48.960

Dewey Gottlieb (he/him): So, going back to your comment earlier about germany's laws are have been decriminalized homosexuality.

190

00:30:51.420 --> 00:30:53.040

Dewey Gottlieb (he/him): Before the United States may have.

191

00:30:54.360 --> 00:31:03.990

Dewey Gottlieb (he/him): So maybe jeremy's trend wouldn't follow the same that's the United States because probably after 2015 in the United States, people were more comfortable.

192

00:31:04.620 --> 00:31:13.680

Dewey Gottlieb (he/him): Admitting in a survey to a stranger that they identify as part of the LGBT community so it's in a pure mathematical sense yeah and it'd be a.

193

00:31:14.820 --> 00:31:23.040

Dewey Gottlieb (he/him): You know, an activity to demonstrate this idea of vertical shifts you know how that how that affects the graph.

194

00:31:24.240 --> 00:31:26.700

Dewey Gottlieb (he/him): But considering context I don't know if.

195

00:31:28.260 --> 00:31:33.750

Dewey Gottlieb (he/him): It matches what's I guess the social or political changes happening in this country.

196

00:31:35.640 --> 00:31:38.340

Brandie Waid: yeah Thank you doing trina where you add to that.

197

00:31:39.570 --> 00:31:45.450

Trena Wilkerson: I was gonna ask for just a little bit of clarification, if you were just talking about to do we appreciate what you said because there's.

198

00:31:46.380 --> 00:32:03.720

Trena Wilkerson: I think the context would be important to consider and to think about, but I was just I was going to ask about just clarity, are you talking about if you just if you just add, so the data that's there is from the Green the Green is the US Data right.

199

00:32:04.860 --> 00:32:05.160

Brandie Waid: yeah.

200

00:32:05.400 --> 00:32:11.550

Trena Wilkerson: Okay, so you're talking about if we take the the one data point from Germany and added to it right.

201

00:32:12.300 --> 00:32:12.510

When.

202

00:32:13.560 --> 00:32:24.090

Trena Wilkerson: We you know doing know enough about the previous years, like we do have a little bit of data for the US, so we have every how many years there's 377 different data points right.

203

00:32:24.510 --> 00:32:25.230

Brandie Waid: yeah um.

204

00:32:26.310 --> 00:32:28.260

Trena Wilkerson: So I wonder just wondering.

205

00:32:30.330 --> 00:32:39.930

Trena Wilkerson: You know, does germany's look like the same thing previous to the 20 1617 whatever it was.

206

00:32:42.330 --> 00:32:42.690

Brandie Waid: yeah.

207

00:32:42.990 --> 00:32:47.640

Trena Wilkerson: Or is it different enough that it would need to be looked at in conjunction with.

208

00:32:49.800 --> 00:32:50.940

Trena Wilkerson: The one data point.

209

00:32:53.880 --> 00:32:54.330

Trena Wilkerson: here's.

210

00:32:54.960 --> 00:33:01.440

Brandie Waid: know those are excellent questions and you're both bringing up again points that the students also like.

211

00:33:01.440 --> 00:33:02.880

Brandie Waid: We kind of talked through.

212

00:33:03.210 --> 00:33:09.090

Brandie Waid: Because I feel like a lot of times in math classes, we like trying to force data situations.

213

00:33:10.380 --> 00:33:13.830

Brandie Waid: And so we kind of talked about like in what.

214

00:33:14.970 --> 00:33:27.540

Brandie Waid: circumstances might make sense to us, the US is um data points to kind of investigate some something else that we might not have as much data for.

215

00:33:28.350 --> 00:33:48.210

Brandie Waid: or not make sense, and so we talked about like looking at political histories and seeing like are there, two countries that are similar and could that what does that mean like would that be helpful in using that as an assumption and kind of like the underlying idea of i'm.

216

00:33:49.320 --> 00:34:04.860

Brandie Waid: kind of identifying your assumptions here it's always important to identify assumptions you're making in your model or where the assumptions that were made and the data set you're creating your model from so like who did they ask and and who identified as LGBT.

217

00:34:06.960 --> 00:34:23.880

Brandie Waid: And then also but also it does provide like a sneaky little segue into you know vertical shifts, so I do get to teach them a little bit about that, while also acknowledging like this is kind of a forced.

218

00:34:24.690 --> 00:34:38.400

Brandie Waid: Mathematical connection, but it was interesting to think about like how it arose and like if we could do that What would it look like that kind of thing so that give us some some real life.

219

00:34:39.720 --> 00:34:48.240

Brandie Waid: real life example to look at like Why am I it be beneficial to even learn about you know transformations within a plane.

220

00:34:49.980 --> 00:34:52.080

Brandie Waid: So that's where we went with that.

221

00:34:55.680 --> 00:34:59.910

Brandie Waid: And I don't know to your point about the the germany's.

222

00:35:00.930 --> 00:35:17.010

Brandie Waid: Data this was it was very difficult mostly because I don't speak German i'm fine chairman to have one So this was like the like this was the only one, I could find an image that had Germany specifically um so.

223

00:35:17.820 --> 00:35:23.130

Trena Wilkerson: brandon made me think about mathematically that's something great for students to think about or for us to think about ensued.

224

00:35:23.130 --> 00:35:23.280

Brandie Waid: yeah.

225

00:35:23.310 --> 00:35:34.890

Trena Wilkerson: Think about that you know you're taking this one data point from Germany and you're placing in there and just wondering what might happen and but then, but then thinking about what the other points represent.

226

00:35:35.100 --> 00:35:39.600

Trena Wilkerson: And can you make the assumption that Germany followed the same.

227

00:35:41.040 --> 00:35:45.360

Trena Wilkerson: Numbers percentages, or whatever so anyway, I think it's a you know, sometimes.

228

00:35:45.720 --> 00:35:52.650

Trena Wilkerson: When we read graphs in the newspaper and things like that we don't really think about the assumptions, we just kind of look at what's there.

229

00:35:53.040 --> 00:36:01.470

Trena Wilkerson: And without really looking at it and so somebody could have a graph like what we had earlier that you had and then just pop Germany in there and Labor.

230

00:36:02.280 --> 00:36:04.050

Trena Wilkerson: Over might not even think about what that.

231

00:36:04.050 --> 00:36:07.320

Trena Wilkerson: actually means and how it's connected, you know.

232

00:36:07.350 --> 00:36:07.770

yeah.

233

00:36:09.840 --> 00:36:10.620

Brandie Waid: Exactly.

234

00:36:12.000 --> 00:36:15.060

Brandie Waid: And I talked about last week, the last time, the.

235

00:36:17.130 --> 00:36:22.320

Brandie Waid: Misleading graphs that the, the one that Georgia let out numbers.

236

00:36:23.520 --> 00:36:24.840

Brandie Waid: that's maybe they go.

237

00:36:25.620 --> 00:36:33.780

Brandie Waid: yeah you're not looking closely, a lot of people don't mo like they'll just accept it for what it is, so this is.

238

00:36:34.290 --> 00:36:42.480

Brandie Waid: Especially important given that, where we have so much access to this information, now that we're teaching this kind of data literacy literacy to our students.

239

00:36:42.750 --> 00:36:52.770

Brandie Waid: And we can do it across content areas or across you know the various mathematical areas it doesn't just have to you know pop up and statistics or whatever.

240

00:36:53.850 --> 00:36:54.090

Brandie Waid: So.

241

00:36:55.530 --> 00:36:56.400

Brandie Waid: that's one way to do it.

242

00:36:57.990 --> 00:36:59.340

Brandie Waid: And then.

243

00:37:02.610 --> 00:37:17.640

Brandie Waid: And then the next wondering, that they have was about generations so similar to like when we were talking about growth over time for everyone, they were curious about specific generations.

244

00:37:19.230 --> 00:37:21.870

Brandie Waid: So, like the gin.

245

00:37:23.340 --> 00:37:36.840

Brandie Waid: Well, the millennials like you know what my way expect them to look like in three years if they follow a similar trend, this is enough data for them, and you know whatnot so again, we did.

246

00:37:38.640 --> 00:37:40.440

Brandie Waid: What is wrong with my mouse.

247

00:37:42.090 --> 00:37:42.480

Brandie Waid: He.

248

00:37:44.220 --> 00:37:47.880

Brandie Waid: Looked at various generations, so this is millennials.

249

00:37:49.140 --> 00:37:59.160

Brandie Waid: Where I found more data points for them, and then we did a similar thing, where we went through and then this was also kind of good practice, based on what we had done previously with the.

250

00:37:59.550 --> 00:38:05.940

Brandie Waid: You know regressions and what what's a good model they got to go through, and I assign each of them a different generation.

251

00:38:07.170 --> 00:38:13.920

Brandie Waid: No one got gen Z because they just basically turned of age, so we have an update over them at all.

252

00:38:15.240 --> 00:38:27.990

Brandie Waid: And we looked through like kind of what our predictions were and again went through this idea of like does it make sense for this identity identification to increase based on generation considering like.

253

00:38:29.160 --> 00:38:31.500

Brandie Waid: Are the baby boomers going to be around and.

254

00:38:32.550 --> 00:38:42.900

Brandie Waid: I don't know um so like kind of that context, again, why does the context matter and, like when we were looking at everyone over time.

255

00:38:43.290 --> 00:38:57.420

Brandie Waid: Like it made sense because we'd be act like it was everyone so we're adding more people in but like when you're looking at a generation it's the set people so like when you're, taking into account people live a certain amount of time.

256

00:38:58.410 --> 00:39:12.090

Brandie Waid: Probably an increasing model like that doesn't make a lot of sense So yes, we might want to get them to get 60% but that might not happen, for you know baby boomers gen X or millennials.

257

00:39:13.230 --> 00:39:17.490

Brandie Waid: Possibly gen Z they're pretty cool so we'll see.

258

00:39:19.980 --> 00:39:30.870

Brandie Waid: um yeah so Those were some of the things we did in the context of that um but again just kind of solidified some of those concepts um.

259

00:39:31.620 --> 00:39:37.920

Brandie Waid: And then something interesting came up, based on all of these, one of the students had posed a question like.

260

00:39:38.670 --> 00:39:45.660

Brandie Waid: Okay we're seeing a rise in like identification over the years, like, I wonder.

261

00:39:45.990 --> 00:39:54.360

Brandie Waid: How what what the acceptance rates look like, so this is connecting to what y'all were talking about as far as historical context and.

262

00:39:54.630 --> 00:40:09.870

Brandie Waid: Like when in marriage equality past, and when you know the laws of decriminalization of homosexuality past and those sorts of things um so we went and looked this was the best data source, we could get.

263

00:40:11.670 --> 00:40:20.700

Brandie Waid: But we looked for various countries, to see what the acceptance rates were and we like.

264

00:40:22.260 --> 00:40:30.810

Brandie Waid: We also like first or like oh did any of these things surprise us and then some of the kids were like oh I can't believe the US is like.

265

00:40:31.200 --> 00:40:43.110

Brandie Waid: Close to so close to Mexico and, unlike yeah that's because you're very Eurocentric and Western and then we need to like be aware of the rest of the world, yes.

266

00:40:43.620 --> 00:40:53.010

Brandie Waid: um, but we have conversations about this, and then we also had conversations about like you know if we were going to do, similar modeling as we did for.

267

00:40:54.180 --> 00:41:08.880

Brandie Waid: The generations which of these would make sense to do that for well, which would which of these would make more sense to do that for and which would make less sense, so we talked about like India has two data points.

268

00:41:09.960 --> 00:41:19.530

Brandie Waid: And that's we're going to have a linear model probably if if we're using those two data points we can fit other things to the data but.

269

00:41:21.030 --> 00:41:31.020

Brandie Waid: that's, we need a little bit more than two even the South Africa data points might not be enough, I mean it could it's a start and you could definitely find the function.

270

00:41:32.430 --> 00:41:41.010

Brandie Waid: A regression that fit it but i'm having four or five would definitely be better than having two or three.

271

00:41:42.150 --> 00:41:53.280

Brandie Waid: So, again Those are some of the conversations we had and looked at them again through historical lenses of like Okay, the US, you know when did marriage equality past.

272

00:41:53.700 --> 00:42:08.820

Brandie Waid: What did identification look like at that time, like, why did it dip here um you know after 2002 and we also have to guess about like what these years were because the scale was not very clear.

273

00:42:09.540 --> 00:42:19.440

Brandie Waid: In some cases, but it was a fun, you know exercise again and seeing like How does in history connect to the identification and.

274

00:42:21.270 --> 00:42:22.680

Brandie Waid: The acceptance and whatnot.

275

00:42:25.350 --> 00:42:32.490

Brandie Waid: Show 810 I was going to send you the breakout rooms, but I think it's okay if we stay in the main room.

276

00:42:33.630 --> 00:42:34.950

Brandie Waid: And just talk about like.

277

00:42:36.150 --> 00:42:42.600

Brandie Waid: Was there any any thoughts or we talked about some of your questions that are coming up for y'all throughout but anything else that.

278

00:42:43.890 --> 00:42:54.060

Brandie Waid: you're thinking of or concepts you're thinking like oh it'd be interesting to maybe do something like this, but related to Y or Z or whatever.

279

00:43:00.420 --> 00:43:05.580

Kevin Dykema: I kind of wonder if it would be interesting to to not provide the context at first just provide the data set.

280

00:43:06.630 --> 00:43:11.760

Kevin Dykema: sort of analyze the data set and then provide that context to say, this is why you know.

281

00:43:12.150 --> 00:43:17.880

Kevin Dykema: You need to have context when we're dealing with with data we were dealing with statistics when we're dealing with stuff.

282

00:43:18.270 --> 00:43:22.410

Kevin Dykema: Because you can make all kinds of assumptions when you don't have the background information.

283

00:43:22.830 --> 00:43:28.770

Kevin Dykema: And once you get that background information that may change some of the assumptions that you made later on, so just wondering, maybe.

284

00:43:29.370 --> 00:43:37.560

Kevin Dykema: Maybe an interesting conversation I had with students and see if if their thoughts changed pre knowing where the data came from, and after they know where the data came from.

285

00:43:39.120 --> 00:43:39.690

Brandie Waid: like that.

286

00:43:40.620 --> 00:43:44.490

Brandie Waid: That would be a powerful way to frame it as far as assumptions without.

287

00:43:46.050 --> 00:43:52.320

Brandie Waid: Like kind of I did have to nudge them to think about those things yeah.

288

00:43:53.430 --> 00:43:57.030

Brandie Waid: Any other thoughts or comments about Kevin.

289

00:44:10.260 --> 00:44:12.600

Trena Wilkerson: don't have any conversations about.

290

00:44:16.440 --> 00:44:18.660

Trena Wilkerson: How the data may have been collected.

291

00:44:19.440 --> 00:44:26.700

Brandie Waid: We did yeah so we went through and I don't remember I don't have the links for that.

292

00:44:27.660 --> 00:44:28.740

Trena Wilkerson: that's Okay, it just made.

293

00:44:28.740 --> 00:44:43.350

Trena Wilkerson: me think about you were talking about other things that you could do, and it made me think about that that matters, you know how how the data was collected potentially what kind of questions were asked but, but like just their various aspects that also might be interesting.

294

00:44:45.180 --> 00:44:45.990

Trena Wilkerson: to think about.

295

00:44:47.070 --> 00:44:50.700

Brandie Waid: yeah like it was a representative sample.

296

00:44:52.110 --> 00:44:52.590

Brandie Waid: and

297

00:44:56.190 --> 00:44:59.130

Kyle: Did the spring up any discussions about the census.

298

00:45:00.870 --> 00:45:10.560

Brandie Waid: He did i'm only very briefly because the one that was the most like historical on politically savvy with the German students.

299

00:45:11.880 --> 00:45:12.600

Brandie Waid: So.

300

00:45:14.520 --> 00:45:24.810

Brandie Waid: Once she brought it up, then the others kind of started talking about it, but we quickly kind of moved on and we did wonder, you know.

301

00:45:26.370 --> 00:45:34.830

Brandie Waid: What kind of data would come out of the census because it wasn't available at that point, I don't think whenever we have the camp um and.

302

00:45:35.520 --> 00:45:50.880

Brandie Waid: kind of comparing the two data sets like we're taking something from Pew research and then we're looking at the US census like when we're talking about you know representative samples how like would those compare or you know those sorts of things.

303

00:45:53.070 --> 00:45:57.150

Kyle: yeah one of the most heated heated discussions i've seen is about.

304

00:45:58.890 --> 00:46:02.940

Kyle: LGBT Q plus identity, not being collected by the census and.

305

00:46:04.080 --> 00:46:10.320

Kyle: How that hurts the queer population so severely because that's where you get.

306

00:46:12.180 --> 00:46:14.040

Kyle: distribution of resources from.

307

00:46:15.690 --> 00:46:16.170

Kyle: So.

308

00:46:17.010 --> 00:46:18.480

Brandie Waid: yeah and this time.

309

00:46:18.870 --> 00:46:19.860

They did ask about.

310

00:46:21.120 --> 00:46:23.940

Brandie Waid: queer couples right, I recall.

311

00:46:25.680 --> 00:46:26.760

Kyle: I don't think so.

312

00:46:27.150 --> 00:46:27.990

Kyle: I think cuz the.

313

00:46:29.100 --> 00:46:35.820

Kyle: i'm pretty sure they didn't because the trump administration was in charge, and I think they deleted all those questions.

314

00:46:36.090 --> 00:46:38.700

Brandie Waid: Oh, I don't know now, I have to go look that up.

315

00:46:40.230 --> 00:46:43.200

Kyle: yeah so what I did find out but i'm pretty sure there weren't.

316

00:46:43.500 --> 00:46:47.880

Kyle: i'm pretty sure there weren't any question, I think it was set up, so that there were supposed to be.

317

00:46:48.000 --> 00:46:50.880

Brandie Waid: And they took gotcha that might that might be the case.

318

00:46:51.360 --> 00:46:55.230

Brandie Waid: um yeah, but that is kind of also a really good.

319

00:46:55.290 --> 00:47:04.560

Brandie Waid: kind of social justice lens of like power and resources i'd imagine that can take you on a whole different path of really awesome lessons.

320

00:47:05.640 --> 00:47:07.590

Brandie Waid: You know if there were no standards.

321

00:47:10.860 --> 00:47:11.940

Brandie Waid: Is that the dream.

322

00:47:14.820 --> 00:47:15.210

Brandie Waid: anyway.

323

00:47:21.990 --> 00:47:25.770

Dewey Gottlieb (he/him): i'm curious did the students talking all our core ask questions about.

324

00:47:27.330 --> 00:47:28.440

Dewey Gottlieb (he/him): You know just.

325

00:47:30.480 --> 00:47:36.840

Dewey Gottlieb (he/him): Like visibility in just via social media, for example, or you know.

326

00:47:38.460 --> 00:47:42.330

Dewey Gottlieb (he/him): Just just seeing representation of LGBT people.

327

00:47:43.980 --> 00:47:48.630

Dewey Gottlieb (he/him): You know, for younger folks for the millennials in the JET the gen Z.

328

00:47:50.520 --> 00:48:01.560

Dewey Gottlieb (he/him): You know that's I mean it's a bit more commonplace, which obviously has a ripple effect, but obviously may have a ripple effect on the acceptance social acceptance as well as.

329

00:48:02.670 --> 00:48:07.200

Dewey Gottlieb (he/him): Any individuals comfort level, and you know to publicly saying that they're.

330

00:48:08.430 --> 00:48:11.550

Dewey Gottlieb (he/him): Part of the LGBT Q plus Community versus.

331

00:48:12.840 --> 00:48:22.650

Dewey Gottlieb (he/him): The older generations who may not have had that type of exposure and just curious if that if that had any with that part of the conversation at all.

332

00:48:23.550 --> 00:48:30.660

Dewey Gottlieb (he/him): I mean, I would assume younger students, they took technology for grant i'm not seeing any way, but you know it's just it's how we grew up in spite of them, I mean.

333

00:48:31.710 --> 00:48:34.230

Dewey Gottlieb (he/him): They probably had imagine not growing up with.

334

00:48:36.210 --> 00:48:36.900

Dewey Gottlieb (he/him): Access to.

335

00:48:37.110 --> 00:48:44.370

Dewey Gottlieb (he/him): devices and technologies, so I was just curious if you thought about that at all in terms of how, but when you just aggregate by generation.

336

00:48:46.080 --> 00:48:47.520

Dewey Gottlieb (he/him): What how the data worked out that way.

337

00:48:48.720 --> 00:48:54.150

Brandie Waid: They did um but I don't know that they would have thought of it on their own.

338

00:48:55.980 --> 00:49:09.120

Brandie Waid: Also in the beginning phase of the camp was mostly just like problem posing and then the second half of the camp was exploring the problem, so this like stuff that we're looking at now or things like this design to.

339

00:49:09.870 --> 00:49:23.850

Brandie Waid: explore some of the problems they posed in like their problems got better and better as they you know posed more and more problems, but some of the other images we looked at for problem posing or images that had data on.

340

00:49:24.330 --> 00:49:45.150

Brandie Waid: LGBT Q representation in film in why and literature and in video games, so they did make kind of a call back to that, and they were like oh like this makes sense, given that context and we had a very brief we didn't get too much into it mostly because I just didn't want to i'm.

341

00:49:46.980 --> 00:50:05.400

Brandie Waid: The kind of idea of cause and effect and what a causal relationship is and, like the kinds of statements, we can make as far as one thing being caused by another um so that was definitely an interesting conversation.

342

00:50:06.750 --> 00:50:15.210

Dewey Gottlieb (he/him): No, I love that idea, but how using these contexts in these beta is problem posey as an as an exercise in.

343

00:50:17.400 --> 00:50:20.010

Dewey Gottlieb (he/him): You know, getting better at problem posing and ask them questions.

344

00:50:22.590 --> 00:50:28.050

Brandie Waid: yeah I wish all methods like that, and all of these kids were self described like non math people.

345

00:50:29.130 --> 00:50:38.220

Brandie Waid: So it was really refreshing to see them like towards the end like being like oh yeah that makes sense because historically blah blah blah i'm like.

346

00:50:38.730 --> 00:50:39.300

Brandie Waid: Look at you.

347

00:50:44.040 --> 00:50:48.000

Brandie Waid: um yeah so that was a really refreshing part of the camp.

348

00:50:48.960 --> 00:50:56.520

Trena Wilkerson: That also points to the power of data, science and statistics and you know there's conversation about how.

349

00:50:57.690 --> 00:51:04.260

Trena Wilkerson: it's not rigorous, are you know it's watered down and and, in reality, it is very rigorous and.

350

00:51:04.620 --> 00:51:18.630

Trena Wilkerson: very, very deeply have you have really have to think about it very deeply very carefully and lots of different ways to analyze just look at all the graphs that you created you know with these with these students and so it's like you know you really have to.

351

00:51:19.800 --> 00:51:25.320

Trena Wilkerson: You really have to dig deeply into it, so I think that's another reason for.

352

00:51:27.420 --> 00:51:33.000

Trena Wilkerson: To help students see that they are math and Stat data science people you know they are.

353

00:51:33.930 --> 00:51:34.230

Brandie Waid: Now.

354

00:51:34.260 --> 00:51:37.080

Trena Wilkerson: When it matters when it means something to them and matters to them.

355

00:51:38.160 --> 00:51:47.730

Brandie Waid: yeah exactly, and I think the I think you know, like you're saying data science sometimes gets a bad rap because of the way we implement it, but like.

356

00:51:49.500 --> 00:52:04.170

Brandie Waid: This and and there are time constraints and they weren't you know I had all the time I had like six weeks, I met them, you know, three days a week for two hours, and we did, whatever the heck we wanted um so that makes a big difference.

357

00:52:05.910 --> 00:52:06.540

Brandie Waid: But.

358

00:52:07.710 --> 00:52:15.690

Brandie Waid: Like if we allow for more flexibility for teachers like this kind of instruction would be very powerful.

359

00:52:16.140 --> 00:52:26.100

Brandie Waid: And the hope is I mean I don't know if we'll get there, and like who knows if we'll have time to actually look into grants to see if this is a possibility, but the hope is to eventually partner with.

360

00:52:26.850 --> 00:52:36.780

Brandie Waid: Local pride centers and maybe train teachers to do this work so that they can have you know, one of these.

361

00:52:37.800 --> 00:52:39.540

Brandie Waid: Experiences in person.

362

00:52:40.620 --> 00:52:41.910

Brandie Waid: To have kids come to.

363

00:52:43.560 --> 00:52:45.000

Brandie Waid: Experience this kind of math.

364

00:52:46.020 --> 00:52:48.420

Brandie Waid: Over the summer or throughout the year, whatever.

365

00:52:49.980 --> 00:52:54.450

Brandie Waid: That is a way long long game, but hopefully we'll get there.

366

00:52:59.100 --> 00:53:00.780

Brandie Waid: Right so.

367

00:53:02.250 --> 00:53:05.310

Brandie Waid: Now we'll move to the time.

368

00:53:07.050 --> 00:53:10.260

Brandie Waid: Oh, goodness, and always goes by so fast and the whole.

369

00:53:11.520 --> 00:53:14.940

Brandie Waid: Cross disciplinary questions that were in that reading that.

370

00:53:16.140 --> 00:53:33.390

Brandie Waid: was actually an article that I wrote with my colleague, my former quality Kristen Turner um so the Cross disciplinary questions which I often call the CD cues for the seven questions that we came up with based on like how we might because.

371

00:53:34.890 --> 00:53:46.260

Brandie Waid: Like yes, the questions that we used last week for yay and ruble when we are especially when we're looking at doing example which was awesome um was.

372

00:53:47.400 --> 00:53:58.470

Brandie Waid: Those are very helpful with the teacher lens thinking about like, how can I improve this task, how can I make it more reflective having more windows and mirrors or if you're doing like an overall curriculum.

373

00:54:00.810 --> 00:54:02.220

Brandie Waid: audit of some sort.

374

00:54:03.450 --> 00:54:22.110

Brandie Waid: But the CD choose that Kristen and I developed we're actually more geared towards the students using them because we're not going to get rid of all the binary assumptions we're not going to get rid of you know, the very biased representations, we see.

375

00:54:23.940 --> 00:54:36.330

Brandie Waid: Everywhere in life so like having students think critically about that as well, we felt was important, so we came up with the seven questions, the first two, you know who's the notice and wonder.

376

00:54:37.740 --> 00:54:47.940

Brandie Waid: So that's very common routine and then what is the context to thinking about contextually, which is part of what we were doing in that data science task.

377

00:54:48.270 --> 00:55:08.550

Brandie Waid: i'm thinking about Okay, what is context, does this make sense, blah blah blah, but this is thinking about it, given a specific problem as well um what genders are represented, and how are they represented so, is it inner sectional is it, are they reinforcing gender roles are they rigid genders.

378

00:55:10.410 --> 00:55:24.060

Brandie Waid: Who is included in the represented genders, and who isn't that's also part of an intersection ality what other genders are there and what could considering other gender gender identities add to our understanding.

379

00:55:25.110 --> 00:55:35.490

Brandie Waid: So, to give you an idea of what that might look like the article itself has started with this scenario, the scenario was.

380

00:55:36.330 --> 00:55:44.550

Brandie Waid: me giving my students have problems that that had this problem on it and to give you a little bit of background context the school that this happened that i'm.

381

00:55:45.030 --> 00:55:56.850

Brandie Waid: Good I worked at the way again and I did have a little bit more freedom than I would have had in a public school, but what we did is, we would give the seventh, eighth graders.

382

00:55:58.230 --> 00:56:03.420

Brandie Waid: A problem set that we had set aside every.

383

00:56:05.640 --> 00:56:14.310

Brandie Waid: yeah it was they had a problem set every other week, so the first so they would be assigned the problems that and then that Thursday.

384

00:56:14.820 --> 00:56:25.410

Brandie Waid: They would or Friday notice Friday and then that Friday, they would get to work on the problem set in class, but their classmates every Friday they knew that that was the plan every Friday.

385

00:56:27.090 --> 00:56:46.440

Brandie Waid: That they had received problems that and then the following Friday when the problems that was do they would be assigned a problem with a partner to present from the problem set to the class so Fridays were basically student led instruction all year round, which was pretty awesome.

386

00:56:48.870 --> 00:56:51.900

Brandie Waid: I would like, do I would recommend it for everyone.

387

00:56:53.490 --> 00:56:59.310

Brandie Waid: Because it also like lightens your load with planning and really gives you a kind of an easy Friday.

388

00:57:00.630 --> 00:57:10.140

Brandie Waid: So, and the students are very engaged and they learned, I think a lot more on Fridays than they did throughout the year.

389

00:57:10.740 --> 00:57:19.440

Brandie Waid: Because it was stuff that they were you know actively engaging and Problem Solving and actively presenting it and critiquing each other solutions and and like.

390

00:57:20.070 --> 00:57:31.710

Brandie Waid: i'm So this was one of the problems that was on the problem set of school dance there X boys and the girls and there are more boys and girls, how many different possible couples are there for dancing.

391

00:57:33.210 --> 00:57:39.600

Brandie Waid: In the article, the students said, you know who what it was a couple, and I was like oh shoot.

392

00:57:41.250 --> 00:57:42.000

Brandie Waid: and

393

00:57:43.710 --> 00:57:58.770

Brandie Waid: Have a little bit of an existential crisis myself but i'm this kind of inspired this problem so let's use this problem or these questions across this winter question so let's use this problem to kind of go through.

394

00:58:00.600 --> 00:58:06.090

Brandie Waid: The questions So what do we notice about this problem anybody have any noticing.

395

00:58:11.580 --> 00:58:13.620

Kyle: This is kind of a weird noticing.

396

00:58:13.830 --> 00:58:14.070

But.

397

00:58:15.480 --> 00:58:19.680

Kyle: I don't understand why they used X and Z like you've got boys and girls well.

398

00:58:20.640 --> 00:58:21.480

Kyle: gee that's.

399

00:58:21.900 --> 00:58:27.180

Kyle: It just jumps off the text for me that's That was the first thing that I was like what is with that.

400

00:58:27.960 --> 00:58:31.470

Brandie Waid: and also why, if you're gonna do X and Z y X and y.

401

00:58:32.490 --> 00:58:33.150

Brandie Waid: Like what.

402

00:58:35.490 --> 00:58:37.500

Brandie Waid: yeah agreed any other.

403

00:58:51.540 --> 00:58:52.260

Brandie Waid: Any wondering.

404

00:59:17.550 --> 00:59:18.030

Trena Wilkerson: i'm.

405

00:59:22.530 --> 00:59:24.240

Since it's about dancing.

406

00:59:27.210 --> 00:59:29.430

Trena Wilkerson: Why, why does it have to be just.

407

00:59:31.170 --> 00:59:34.650

Trena Wilkerson: Not only they're talking about boys and girls, but why.

408

00:59:36.780 --> 00:59:46.770

Trena Wilkerson: couples and why just to why not, because I, because I know and and I think about one of our middle schools here, you know they just all go out, you know so.

409

00:59:46.800 --> 00:59:52.650

Trena Wilkerson: yeah The interesting thing and, by the way, can I add the X and Z jumped out at me too, I was.

410

00:59:52.800 --> 00:59:53.490

Trena Wilkerson: Like okay.

411

00:59:54.540 --> 01:00:06.210

Trena Wilkerson: So interesting choice of letters and why letters, but anyway, but it also made me think about there's an assumption about the couple dancing kind of thing whatever couple might be and that's not always the case.

412

01:00:07.380 --> 01:00:07.680

Trena Wilkerson: So.

413

01:00:08.550 --> 01:00:08.910

yeah.

414

01:00:09.960 --> 01:00:11.010

Brandie Waid: that's a great question.

415

01:00:14.160 --> 01:00:14.970

Brandie Waid: anyone else.

416

01:00:16.530 --> 01:00:18.060

Brandie Waid: Do it so you came off mute.

417

01:00:19.530 --> 01:00:21.210

Brandie Waid: Low key and then decided.

418

01:00:21.660 --> 01:00:21.870

That.

419

01:00:24.390 --> 01:00:26.820

Dewey Gottlieb (he/him): My comment was going to be similar to to train us.

420

01:00:28.170 --> 01:00:33.270

Dewey Gottlieb (he/him): yeah it was just there's an assumption there that they're all going to pair up boys girls and those are the only.

421

01:00:34.620 --> 01:00:37.320

Dewey Gottlieb (he/him): Only waste kits that people could disappear.

422

01:00:40.170 --> 01:00:40.590

Brandie Waid: yeah.

423

01:00:41.010 --> 01:00:41.970

Dewey Gottlieb (he/him): Actually it's concerning.

424

01:00:43.920 --> 01:00:44.610

Dewey Gottlieb (he/him): hours.

425

01:00:45.390 --> 01:00:46.650

Dewey Gottlieb (he/him): No yeah.

426

01:00:47.850 --> 01:00:48.480

Brandie Waid: Exactly.

427

01:00:50.670 --> 01:00:53.760

Brandie Waid: You know this way it's gonna be off in the corner dancing by herself.

428

01:00:59.490 --> 01:01:08.880

Brandie Waid: All right, those are great noticing one wanderings so this kind of gets to what you were saying trina about the context, or what is the context.

429

01:01:09.600 --> 01:01:24.210

Brandie Waid: middle school dances I mean I assign this to a middle school group of students so we're probably going to assume school dance and often they don't dance and couples so thinking about the context in relation to that problem.

430

01:01:25.560 --> 01:01:34.080

Brandie Waid: is helpful um anything else contextually that might be worth noting.

431

01:01:37.500 --> 01:01:40.860

Dewey Gottlieb (he/him): I mean just the implicit in this is that the couples are.

432

01:01:42.900 --> 01:01:44.310

Dewey Gottlieb (he/him): opposite sex genders.

433

01:01:44.970 --> 01:01:46.170

Dewey Gottlieb (he/him): Information of couples.

434

01:01:46.410 --> 01:01:49.110

Dewey Gottlieb (he/him): When it's not explicit but it's certainly implicit.

435

01:01:49.890 --> 01:01:51.330

Brandie Waid: yeah indeed.

436

01:01:55.050 --> 01:01:59.100

Brandie Waid: And like so ingrained in us that I didn't even question it as a queer person.

437

01:01:59.730 --> 01:02:01.800

Brandie Waid: I was like Oh, I see them.

438

01:02:05.280 --> 01:02:13.680

Dewey Gottlieb (he/him): Just as a side note, I mean this is exactly what how you're using your example with these questions, I was applied it to the example that was shared last week.

439

01:02:14.700 --> 01:02:29.550

Dewey Gottlieb (he/him): And it really it was very similar but just about yeah, you know as a queer person i'm not even recognizing the fact that the parameters and set up to the problem was so binary and you know restrictive so yeah I get it.

440

01:02:31.050 --> 01:02:31.440

Brandie Waid: yeah.

441

01:02:32.460 --> 01:02:34.260

Brandie Waid: kind of wild that we can we just like.

442

01:02:34.320 --> 01:02:41.100

Brandie Waid: Divorce ourselves that so dimes in the classroom it's like wait oh wait that makes absolutely no sense.

443

01:02:42.420 --> 01:02:48.660

Brandie Waid: Based on our lives but that's kind of how we're training people and that's why people start to think that message you know.

444

01:02:50.850 --> 01:02:54.660

Brandie Waid: otherworldly you know Okay, I see you.

445

01:02:54.780 --> 01:02:55.350

Covering.

446

01:02:56.940 --> 01:02:58.140

Kyle: I was just gonna say.

447

01:02:59.220 --> 01:03:05.070

Kyle: You know I think that's one of the places where math identity is such a strong identity.

448

01:03:06.570 --> 01:03:07.740

Kyle: It gets.

449

01:03:08.790 --> 01:03:12.450

Kyle: You know sort of highlighted and and hammered into us through our.

450

01:03:13.860 --> 01:03:20.100

Kyle: social, cultural or interactions if you are a math person, then you are special right.

451

01:03:21.600 --> 01:03:25.710

Kyle: And so you know a lot of my research work is focused on.

452

01:03:25.950 --> 01:03:28.740

Kyle: Even if we have queer folks.

453

01:03:28.950 --> 01:03:35.700

Kyle: As teachers, which identity is leading when they're actually teaching is it their math identity or their queer identity.

454

01:03:36.840 --> 01:03:48.840

Kyle: And, most of the time it's the math identity so it's not surprising at all that, even as queer folks we look at these problems and scroll right by the lack of inclusion in them.

455

01:03:51.300 --> 01:03:51.840

Kyle: yeah.

456

01:03:51.990 --> 01:03:54.870

Brandie Waid: And that was like one of the central questions your dissertation right.

457

01:03:55.560 --> 01:03:57.720

Brandie Waid: i'm recalling yeah so.

458

01:03:59.190 --> 01:04:00.480

Brandie Waid: You want to say more about that or.

459

01:04:01.410 --> 01:04:02.610

Kyle: yeah like I forget.

460

01:04:05.790 --> 01:04:22.800

Kyle: it's actually part of my dissertation that I that I do really like is you know this concept of leading identity in that in any given space, even though we all have like hundreds of identities floating around in any given space some ideas some identities are more highlighted than others.

461

01:04:23.910 --> 01:04:32.160

Kyle: And so yeah I do think it's a really important aspect of the way we look at math teaching and pedagogy and.

462

01:04:33.330 --> 01:04:36.030

Kyle: And curriculum, you know yeah.

463

01:04:38.430 --> 01:04:38.970

Brandie Waid: I agree.

464

01:04:39.030 --> 01:04:39.780

100%.

465

01:04:41.940 --> 01:04:42.540

Brandie Waid: And you know.

466

01:04:43.950 --> 01:04:48.360

Brandie Waid: Leave it to a kid to shaky to your core and remind you that that's wrong.

467

01:04:51.900 --> 01:04:53.490

Brandie Waid: But does not reflect reality.

468

01:04:56.790 --> 01:05:09.570

Brandie Waid: So the question was the next question is what genders are represented, and how are they presented and then i'll couple that with who is included, and who is not so.

469

01:05:11.910 --> 01:05:14.550

Brandie Waid: Oh, that is not what happened.

470

01:05:31.410 --> 01:05:33.960

Brandie Waid: So we don't have non binary folks here right.

471

01:05:35.250 --> 01:05:45.630

Brandie Waid: This boys and girls who's included and who's not with these Obviously there are couples we've been talking about that um various.

472

01:05:46.710 --> 01:05:51.990

Brandie Waid: Maybe someone doesn't want to dance like I don't know um so they're not included.

473

01:05:53.730 --> 01:05:55.770

Kyle: I wondered about ability disability.

474

01:05:55.980 --> 01:05:59.700

Brandie Waid: nah yes that's a good point how yeah.

475

01:06:06.390 --> 01:06:09.240

Brandie Waid: And then we'll jump to the last question well one.

476

01:06:09.510 --> 01:06:10.080

Trena Wilkerson: thing about.

477

01:06:10.140 --> 01:06:12.240

Trena Wilkerson: The dancing part there are some.

478

01:06:13.530 --> 01:06:18.570

Trena Wilkerson: classrooms teachers, etc, would have to be very well aware of.

479

01:06:19.980 --> 01:06:25.350

Trena Wilkerson: The culture, because there's some religions that don't believe in dancing, for example, okay.

480

01:06:25.380 --> 01:06:33.750

Trena Wilkerson: yeah are there restrictions about it, or even if they do it, they for particular age groups, if this was done in a middle school, they have some.

481

01:06:35.250 --> 01:06:44.460

Trena Wilkerson: Families that may say no, we don't do this at this age, you know the anyway just something to think about just this the the the significance of just dancing in particular so.

482

01:06:45.240 --> 01:06:45.570

yeah.

483

01:06:46.590 --> 01:06:47.640

Brandie Waid: that's a great point trina.

484

01:06:55.140 --> 01:06:59.010

Brandie Waid: um right so we'll skip to the last one.

485

01:07:00.420 --> 01:07:04.950

Brandie Waid: What would considering other gender identities add to our understanding.

486

01:07:06.240 --> 01:07:13.500

Brandie Waid: And then, something that I typically follow that question, which is how we're doing that change the mathematics.

487

01:07:36.570 --> 01:07:43.080

Kevin Dykema: I think it probably makes the the mathematics, a little Messier, so to speak, then when you have just two options.

488

01:07:43.800 --> 01:07:58.980

Kevin Dykema: doing some of the number calculations, is a little bit smoother and that's true have no matter what data that the more the more variables you add in the more options to add in the tougher than that not quite as neat and tidy some of the numbers can be.

489

01:08:10.650 --> 01:08:12.420

Brandie Waid: Does anyone else.

490

01:08:41.730 --> 01:08:46.860

Brandie Waid: I mean, I think this is this idea I mean considering other gender identities, but the firm, you know.

491

01:08:48.180 --> 01:08:54.180

Brandie Waid: I didn't need that are often let out, which I think is the point that we're kind of getting out, which is kind of like.

492

01:08:55.470 --> 01:09:00.240

Brandie Waid: I think that's one of the reasons we're not mentioning it, because we keep we're essentially talking about it throughout.

493

01:09:02.160 --> 01:09:17.100

Brandie Waid: But um, but it does to Kevin's point like it does make it more complicated, and I think when we're acknowledging that I think it's important to be sensitive to the fact that sometimes when we're talking about queer identity people.

494

01:09:18.540 --> 01:09:30.960

Brandie Waid: I mean, at least, is my experience with my family, and you know people that you know in professional experiences where it's often poses like, why are you making things complicated or like why like why.

495

01:09:31.380 --> 01:09:43.890

Brandie Waid: Why are you adding this extra thing um so kind of being aware of that tension and you know talking about well yeah Okay, the mathematics is more complicated, but why does it matter.

496

01:09:44.400 --> 01:09:53.430

Brandie Waid: To like look at complex problems, why does it matter to be inclusive of everyone, so those are kind of conversations that can come.

497

01:09:55.290 --> 01:09:57.480

Brandie Waid: Discussing these situations.

498

01:09:58.710 --> 01:10:00.660

Brandie Waid: So this is just one problem.

499

01:10:02.160 --> 01:10:04.860

Brandie Waid: I during that class.

500

01:10:06.300 --> 01:10:15.210

Brandie Waid: 100% failed to acknowledge anything I was like, oh dear God I'm afraid and do what you will need to do I'm moving along.

501

01:10:16.320 --> 01:10:28.020

Brandie Waid: But in future years what I did is I let students, we have a conversation kind of through this lens and we said, you know.

502

01:10:29.700 --> 01:10:31.020

Brandie Waid: You get to decide.

503

01:10:32.400 --> 01:10:41.130

Brandie Waid: Who you're who you're saying is a couple of your ears again going back to what we're saying previously what assumptions are you making so.

504

01:10:41.730 --> 01:10:54.300

Brandie Waid: If you're interested in pairing by gender, like make a case for like why that's interesting to look at like the different genders or or even change the problem so it's not binary genders.

505

01:10:55.860 --> 01:11:01.890

Brandie Waid: And then other people wanted to look at okay well I want it to be.

506

01:11:03.450 --> 01:11:22.740

Brandie Waid: Any two people can dance with any other two people, so they would pursue the problem in that way, and then other people would look at well I want anyone to be able to dance with any number of people, so what would that problem look like that one was nightmare, but some of them did it.

507

01:11:24.240 --> 01:11:41.250

Brandie Waid: They were never right, but their solutions made like men like their their methods may made mathematical sense, which was essentially the goal of this problem, sets was to kind of pursue mathematical five um, and so I felt like that really.

508

01:11:42.300 --> 01:11:50.040

Brandie Waid: stuck to the spirit of the problem and of the task, so I felt like it was a worthwhile endeavor to let them, you know.

509

01:11:50.610 --> 01:12:05.790

Brandie Waid: choose their path, and then we can talk about like Okay, where did you get stuck you know why did this thing not make sense or Why was this a misstep when like, why should we have done something else, like what kind of.

510

01:12:08.010 --> 01:12:19.650

Brandie Waid: mistake was made here, or you know whatnot and the kids really appreciated that they got to choose, they have the the flexibility with this task so that's what I found.

511

01:12:20.970 --> 01:12:22.230

Brandie Waid: With this specific one.

512

01:12:25.080 --> 01:12:36.060

Brandie Waid: So that's for a single problem and again if you're doing this for a single problem, how you do it will depend on the time constraints, it will depend on you know.

513

01:12:38.160 --> 01:12:44.220

Brandie Waid: Well, much like just the time constraints and the content, like that's, the main thing that people say.

514

01:12:45.330 --> 01:12:51.960

Brandie Waid: So i'm thinking about that, like obviously I had more time for this, because of that Friday setup.

515

01:12:53.190 --> 01:12:58.950

Brandie Waid: But I still think it could be an acknowledged by going through these questions.

516

01:12:59.880 --> 01:13:08.100

Brandie Waid: acknowledged that like there are other genders, and we, this is not representing that there are other couplings, this is not representing that.

517

01:13:08.520 --> 01:13:27.390

Brandie Waid: And like i'm even an exercise of changing the problem so like recognizing the bias and being like okay So how do we change the problem, the context of the problem to remove that bias is also an excellent exercise and it's very mathematical.

518

01:13:28.500 --> 01:13:39.060

Brandie Waid: So complex it's very complex for seventh and eighth grade students um so that was that one um the other way that I.

519

01:13:39.840 --> 01:13:56.520

Brandie Waid: have started thinking about these cross disciplinary questions is using them across the unit um so my friend or rooms, at the end I are actually developing a you were calling it a book but it's not really a book it's more like a unit plan.

520

01:13:57.930 --> 01:14:08.220

Brandie Waid: But i'm will go with book and it was actually an article, and then it was supposed to be 10 pages, and it was 40 and I was like this is not an article anymore.

521

01:14:09.930 --> 01:14:21.720

Brandie Waid: So as evolution of this um and so we're in the process of doing this, but what we were looking at is we're talking about the gender pay gap and how it's often.

522

01:14:22.260 --> 01:14:31.260

Brandie Waid: Like shown in a way that's like men make this much money and women make this much money it's 71 cents to the dollar, whatever it is.

523

01:14:32.340 --> 01:14:36.450

Brandie Waid: And again, that perpetuates like a binary assumption.

524

01:14:38.370 --> 01:14:55.470

Brandie Waid: So we talked about like What would it look like to use these questions to kind of think more deeply about that kind of problem, so we landed on a using an exploration of that for seven afraid unit on ratio and proportion.

525

01:14:56.670 --> 01:15:04.440

Brandie Waid: And this kind of timeline takes you through which i'll go through very quickly, but it takes you through the progress of.

526

01:15:05.610 --> 01:15:09.990

Brandie Waid: These lessons, so the beginning of the unit starts with.

527

01:15:11.130 --> 01:15:23.640

Brandie Waid: a lesson on ratio and unit rates and we've designed this task it can either be the lesson itself or it can be like an add on to supplement the lesson.

528

01:15:24.510 --> 01:15:41.580

Brandie Waid: So students are like maybe engaging with these tasks as like a unit long project or a unit long inquiry that works in tandem with our lessons, so this is looking at a data set from the American.

529

01:15:43.590 --> 01:15:46.860

Brandie Waid: Community survey ACS think.

530

01:15:47.970 --> 01:16:05.070

Brandie Waid: Something like that it's taken every year by the US census Bureau so we started out the unit by like talking about what is this survey and like How does it differ from the census that's done every year or every 10 years.

531

01:16:07.080 --> 01:16:12.900

Brandie Waid: And like looking at why they claim it's representative and what kind of information, it gives us and blah blah blah.

532

01:16:13.650 --> 01:16:34.860

Brandie Waid: And then you know this first task has them look at okay we're looking at median income for white non Latino Hispanic men white non my genetics, is going to women black or African American men So these are the breakdowns across races that are given for men and women and.

533

01:16:37.200 --> 01:16:46.020

Brandie Waid: Then we have been looking at okay let's assume that they work 1920 hours of a year, which is the average.

534

01:16:46.800 --> 01:16:54.840

Brandie Waid: If we get a typical work week, so what is the ratio of mean income to the hours were what does that, as a unit rate, what does that mean.

535

01:16:55.680 --> 01:17:06.210

Brandie Waid: And then we move into proportionality proportionality they then look at Okay, if we have.

536

01:17:07.170 --> 01:17:15.660

Brandie Waid: Are these ideas proportional like if we looked at the median income like and we wanted them to be proportional.

537

01:17:16.560 --> 01:17:28.440

Brandie Waid: How like what would the hours look like so, for example, if we wanted everyone to have the same unit rate an Asian man would need to work 4260.

538

01:17:29.070 --> 01:17:40.980

Brandie Waid: hours for the 71,000 and then the Latino Hispanic woman would work the 1920s so like kind of looking at that scale and and how those differ.

539

01:17:41.520 --> 01:17:57.330

Brandie Waid: Proportionality then we go to inheritance and generational wealth and we look at okay i'm know, historically, this is what the general the median inheritance people have been sent to receive.

540

01:17:58.740 --> 01:18:17.070

Brandie Waid: But this is only based on the people that do receive an inheritance so again, this is also an assumption we're making like we're going to assume that someone does receive an inheritance and how does that inheritance and generational wealth impact someone's someone's wealth.

541

01:18:18.240 --> 01:18:19.470

Brandie Waid: So, looking at that.

542

01:18:20.940 --> 01:18:37.140

Brandie Waid: Then we move on to cost of living um and look at like if we were to add in the cost of living like what How does that impact the income what's left over, and then, if we also add in the generational wealth like what's left over.

543

01:18:38.550 --> 01:18:45.720

Brandie Waid: Then we shift to this idea of percentage comparisons so before we were looking at actual numbers.

544

01:18:46.410 --> 01:18:56.040

Brandie Waid: And then we look at percentage comparisons, and this is where the inquiry actually begins so before that we're just like la la la This is our data set yay.

545

01:18:56.490 --> 01:19:06.690

Brandie Waid: um but now, when we get to this graph then we start using those cross disciplinary questions and saying okay we've been using this graph this.

546

01:19:06.960 --> 01:19:20.970

Brandie Waid: This data set or really if we're using a data set, we should think about it critically, so what you know what is the context, what are who's included who's not included, and then that's where these idea of like.

547

01:19:21.690 --> 01:19:39.240

Brandie Waid: This is a very binary gender presentation comes into play um i've done this single lesson with zach japan's middle schoolers something else they noticed was that, like white alone non Hispanic.

548

01:19:40.440 --> 01:19:54.540

Brandie Waid: Is on this graph but black alone non Hispanic is not, and like how that relates to the fact that the afterlife the next identity is usually erased.

549

01:19:56.280 --> 01:20:03.510

Brandie Waid: So we talked about some of those things and talked about what considering a wider you know range of people might.

550

01:20:05.010 --> 01:20:18.060

Brandie Waid: might provide us with um, then we also went through Okay, so if we're doing one to two person households and we put that on hold and we said okay we're going to go find something to you know.

551

01:20:18.750 --> 01:20:26.130

Brandie Waid: How could we consider other identities and how could we infuse that in the data and then we look at.

552

01:20:26.580 --> 01:20:37.890

Brandie Waid: While we're looking for data we look at once to person households and other kinds of family and have them kind of calculate well, so if you have like a queer i'm to.

553

01:20:38.430 --> 01:20:56.010

Brandie Waid: let's next women households with earners that are to it next women like they're the lowest earning group so, how would that compare to a gay White says hetero couple or homosexual couple.

554

01:20:57.270 --> 01:21:03.210

Brandie Waid: Who makes a lot like double a mate so like thinking about that, through the through time.

555

01:21:03.570 --> 01:21:14.310

Brandie Waid: And with that kid specifically we talked about I was like i'm like next i'm clear like what does that mean about my ability like how soon it will I be able to buy a house.

556

01:21:14.940 --> 01:21:22.800

Brandie Waid: Compared to Mr Japan based on this, and they were like oh man i'm so like talking about those ideas.

557

01:21:23.400 --> 01:21:33.420

Brandie Waid: And then we came back to the impact on queer and trans households, we thought we listened to a podcast that talked about the queer tags how how often and.

558

01:21:34.410 --> 01:21:43.260

Brandie Waid: queer people experienced job interruptions do discrimination and things like that, and how could we consider that, in the context of this data.

559

01:21:44.790 --> 01:22:05.340

Brandie Waid: And with the idea of like wealth over a lifetime like accumulated wealth and then we looked there there aren't there's there's no data on non binary and visuals as far as income data, but there is one study that was done in 2016.

560

01:22:06.420 --> 01:22:17.430

Brandie Waid: Schulte in with wall, they said they did a study on transgender individuals and their income how their income changed after transitioning, and this was like.

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01:22:18.570 --> 01:22:28.350

Brandie Waid: And this was over time it wasn't necessarily like i'm in this job and I transition and then they were like just kidding we're going to pay you this amount that's.

562

01:22:29.070 --> 01:22:33.150

Brandie Waid: A habit, and it was like if they switch jobs, you know those sorts of things.

563

01:22:33.570 --> 01:22:45.150

Brandie Waid: And again, taking into account the queer tax were like you might have job interruptions that makes sense that you would be transitioning you might have to end up going into a different job where they might hate you a different amount.

564

01:22:45.660 --> 01:22:55.830

Brandie Waid: um so the study found that transgender women's after transitioning it falls their their income falls about 32%.

565

01:22:57.150 --> 01:23:11.610

Brandie Waid: which makes sense, given the misogyny in our culture and the way trans women are kind of treated and then we also found that transgender men's income tended to increase 1.5% after transition.

566

01:23:12.750 --> 01:23:21.090

Brandie Waid: So we thought that was interesting and we started, we kind of put that into the data set and has students consider like.

567

01:23:21.450 --> 01:23:32.010

Brandie Waid: Okay, you know what are the implications of that again some of this is forced mathematics and we spend some time talking, because we want to be sensitive to the idea, like.

568

01:23:32.580 --> 01:23:49.290

Brandie Waid: Not everyone transitions what is transition mean it can look different for everyone, but those sorts of things are kind of infused in this unit for students to kind of get an understanding of that and I also did that with zach's kids and.

569

01:23:50.820 --> 01:23:57.330

Brandie Waid: They handled it very well and had some some good questions, and it was nice because they were willing to ask questions that.

570

01:23:58.350 --> 01:23:58.920

Brandie Waid: They.

571

01:24:00.990 --> 01:24:08.880

Brandie Waid: Like about language like what kind of language should I use or you know things that seem a little taboo, that we are afraid to talk to kids about they.

572

01:24:09.270 --> 01:24:19.560

Brandie Waid: were asking these questions which were important they were like okay transition, so if it's if there's if we're talking about transgender woman does, that means that they.

573

01:24:20.160 --> 01:24:31.980

Brandie Waid: Transition there were assigned birth as a male transition to a woman so like what does those terms, actually mean we got to talk about some of that in like a respectful way.

574

01:24:32.880 --> 01:24:41.100

Brandie Waid: which was, which was nice um and then the final part of this unit is thinking about inflation rates and like you know.

575

01:24:42.630 --> 01:24:53.340

Brandie Waid: Essentially, in a lot of these tasks were talking about like how much money is accumulated over 510 20 years you're assuming there are no raises you're showing there's no inflation we're assuming a lot of things.

576

01:24:53.610 --> 01:25:04.230

Brandie Waid: So, like if we want to take those into consideration, how does that change so we're continuing continually revisiting this data set throughout the unit.

577

01:25:04.680 --> 01:25:28.170

Brandie Waid: In relation to this idea of proportion and then eventually do take it through of CD Q, so that the students can think about them and then the culminating project for the unit is that for the final project students get to research, a piece of legislation, whether it be.

578

01:25:29.490 --> 01:25:37.200

Brandie Waid: The Commission that study and develop reparations the Equality Act, the fair Labor standards act.

579

01:25:39.180 --> 01:25:48.750

Brandie Waid: Asking for a minimum wage a higher minimum wage for all the way on back early and reparations initiatives or something else that they can present and.

580

01:25:50.490 --> 01:26:04.560

Brandie Waid: The teacher approves and for the final project once they've done that research they're going to use that research in their mathematical explorations to organize and carry out and information campaign, a letter writing campaign.

581

01:26:06.180 --> 01:26:18.810

Brandie Waid: petition or some other kind of social action that this all culminates into and it's also Nice because the students get to choose, so they don't necessarily they can pick whatever they.

582

01:26:19.620 --> 01:26:35.430

Brandie Waid: Most identify worlds so like we're not making a student say Okay, you have to write it up the Equality Act, but there it's on their radar like one of their classmates will probably be writing about it um, so I think that is also helpful.

583

01:26:37.170 --> 01:26:47.040

Brandie Waid: With a project like this, so i'll stop there, and then a lot of talking but then here any questions or comments about using this for unit.

584

01:27:28.470 --> 01:27:29.070

Kyle: Do you.

585

01:27:30.600 --> 01:27:32.550

Kyle: Give time at all for.

586

01:27:33.720 --> 01:27:46.860

Kyle: You know the I mean you talked about the queer tax to the person of color tax with like the difference in mortgage rates and what that means for a lifetime of a homeowner and those kinds of things.

587

01:27:48.210 --> 01:27:53.490

Brandie Waid: yeah those are things that we consider within the unit as well that's a good question.

588

01:27:54.810 --> 01:28:02.340

Brandie Waid: Because there are all sorts of different societal Texas people play um yeah so your question kyle.

589

01:28:11.700 --> 01:28:17.670

Brandie Waid: This is still in the development phase, so, if any, if you also have any comments about like this is not.

590

01:28:19.020 --> 01:28:19.740

Brandie Waid: reasonable.

591

01:28:22.950 --> 01:28:24.090

Brandie Waid: that's fine too.

592

01:28:31.980 --> 01:28:33.750

Kevin Dykema: To envision this would take.

593

01:28:35.250 --> 01:28:38.910

Brandie Waid: It would be a unit, and I believe, for the seventh grade.

594

01:28:39.960 --> 01:28:41.370

We were using the.

595

01:28:44.190 --> 01:28:47.130

Brandie Waid: Engagement whoops be engaged in New York timeline.

596

01:28:48.210 --> 01:28:57.810

Brandie Waid: That they set out for their pacing guide and I think it was over a period of eight weeks for unit, so we would envision this with fan eight weeks.

597

01:29:09.330 --> 01:29:14.910

Trena Wilkerson: seems like there would be lots of opportunity for collaboration across disciplines.

598

01:29:17.760 --> 01:29:20.070

Trena Wilkerson: as well, so it would be something that.

599

01:29:21.330 --> 01:29:24.330

Trena Wilkerson: yeah so I just I think that's a power behind it.

600

01:29:26.040 --> 01:29:26.460

Brandie Waid: yeah.

601

01:29:29.550 --> 01:29:32.730

Brandie Waid: It shows like that, again, is not irrelevant.

602

01:29:36.660 --> 01:29:39.030

Trena Wilkerson: But, but the way we often teach it.

603

01:29:40.470 --> 01:29:56.730

Trena Wilkerson: In high school and most of the time in middle school not always but many times it's all done segmented it's every discipline is just separated and so doing things like this as a as a unit, it has so many.

604

01:29:57.900 --> 01:30:00.930

Trena Wilkerson: interdisciplinary and trans disciplinary opportunities.

605

01:30:04.530 --> 01:30:11.070

Trena Wilkerson: So it's so it's not like they walk out of the math class and they totally forget about it, it would be something that you can really collaborate on, I think.

606

01:30:11.370 --> 01:30:11.970

Brandie Waid: So yeah.

607

01:30:13.080 --> 01:30:13.590

Brandie Waid: I agree.

608

01:30:14.670 --> 01:30:26.280

Brandie Waid: And how cool would that be like to have them like to be talking to their history teacher and be like Okay, this is what they're doing for their final project So could you like, if this is coming up to like speed it up and do it now.

609

01:30:30.540 --> 01:30:30.900

Brandie Waid: yeah.

610

01:30:31.620 --> 01:30:40.980

Kyle: I was just wondering if anyone's watched a documentary called most likely to succeed, I think it came out and maybe 2015 or 16.

611

01:30:42.810 --> 01:30:50.730

Kyle: it's about high tech, high, which is a charter school in California, I think it's in San Diego but that might not be right.

612

01:30:52.920 --> 01:30:57.330

Kyle: But basically, the it because it's a charter school it doesn't have to.

613

01:30:58.620 --> 01:31:06.870

Kyle: follow the same standards requirements as public schools do and basically the entire school is projects like this.

614

01:31:07.830 --> 01:31:14.250

Kyle: Where it's it's each of the students are placed in a classroom with co teachers who have different.

615

01:31:15.090 --> 01:31:32.220

Kyle: Content area expertise and they come up with a massive project for the students to do together it's definitely worth a watch if you're thinking about all your free time in which you want to watch a documentary over the next few days, or whatever it's it is really, really good, though.

616

01:31:32.790 --> 01:31:33.300

Brandie Waid: That it's.

617

01:31:33.780 --> 01:31:35.430

Brandie Waid: awesome awesome check that out.

618

01:31:36.960 --> 01:31:41.790

Brandie Waid: And that reminds me since we're getting close to the end i'm.

619

01:31:43.650 --> 01:31:47.370

Brandie Waid: Preparing for our last session so on this last slide.

620

01:31:48.510 --> 01:31:52.830

Brandie Waid: Someone recommended in the feedback form which I appreciated the.

621

01:31:54.210 --> 01:32:00.600

Brandie Waid: Maybe, creating a shared resource jam board so if we mentioned anything throughout the sessions, so this might be one.

622

01:32:01.740 --> 01:32:04.230

Brandie Waid: That well and so it's probably most likely to succeed.

623

01:32:05.520 --> 01:32:09.270

Brandie Waid: Do you know which one is it available on like one of the streaming ones.

624

01:32:10.980 --> 01:32:14.280

Kyle: I pretty sure I watched it through our library.

625

01:32:14.820 --> 01:32:15.390

Ah.

626

01:32:16.860 --> 01:32:19.320

Kyle: But I could I can look that up and email you that.

627

01:32:19.830 --> 01:32:20.250

cool.

628

01:32:21.930 --> 01:32:24.630

Kyle: Including at least a link to a trailer.

629

01:32:25.500 --> 01:32:26.160

Brandie Waid: perfect.

630

01:32:26.250 --> 01:32:28.740

Brandie Waid: That would be awesome um.

631

01:32:29.040 --> 01:32:44.730

Brandie Waid: So i'll add that to the resource list so you have access to it just feel free to add whatever I also forgot to email the blog post that I mentioned last time, so I put that in here but i'll also try to remember to email it as well.

632

01:32:45.990 --> 01:32:59.430

Brandie Waid: The shane Martin blog about how it's like not their responsibility of queer career teachers to do this work on their own, because there's so much pressure on us and discrimination, and we are experience.

633

01:33:00.750 --> 01:33:15.000

Brandie Waid: Okay, so for our last session, which is bonkers that is already here, we are going to do two things, the first thing we're going to do is we're going to set a goal for ourselves so identify something.

634

01:33:16.080 --> 01:33:29.790

Brandie Waid: That you know that you want to basically take away from what we've been learning over the last few weeks and implement in some way it doesn't have to be huge like it doesn't have to be all i'm going to rewrite it my whole click on.

635

01:33:30.870 --> 01:33:40.470

Brandie Waid: That is ambitious, if you want to do that but, but is it, but it could be, you know I want to look at one problem right now and figure out how to make that like.

636

01:33:40.890 --> 01:33:57.390

Brandie Waid: more inclusive like i've been thinking about this project and in in that way it's not very inclusive So how do I clear it um and set yourself a deadline for that goal, so I will do this by June 2020.

637

01:33:59.040 --> 01:34:02.010

Brandie Waid: Because I feel like if I don't set a deadline for my goals they don't happen.

638

01:34:03.690 --> 01:34:23.460

Brandie Waid: So that's the first task, the second task is when they go in mind select one task one unit, or some other item you'd like to apply a queer lens to and take some notes on how you might use one of the three methods that we talked about over the past few weeks to clear that thing.

639

01:34:24.540 --> 01:34:30.840

Brandie Waid: So the three the three methods being kind of a general problem posing approach.

640

01:34:32.070 --> 01:34:40.860

Brandie Waid: so doing you know, using the, what do you notice what do you wonder and use students questions to inspire the lesson kind of like what we saw at the beginning of today.

641

01:34:42.450 --> 01:34:45.990

Brandie Waid: The second one is using rands art marines.

642

01:34:47.070 --> 01:34:56.640

Brandie Waid: Yang rubles questions to take something that already exists in your classroom and try to make it have a you know wider reflection.

643

01:34:57.000 --> 01:35:13.890

Brandie Waid: Of windows and mirrors and then the last method being what we saw today with using something that already exists and not necessarily changing it, but how you might implement these questions for students to consider, so they start critically engaging material as well.

644

01:35:15.090 --> 01:35:26.700

Brandie Waid: So, think about how you might do that with some tasks, or something take some notes write some questions and bring that with you next time because we're going to have some working time and then some feedback time to help each other out.

645

01:35:27.450 --> 01:35:32.130

Brandie Waid: To that we can leave with something enhance hopefully that's the goal.

646

01:35:35.130 --> 01:35:38.490

Brandie Waid: yeah that's all sorry than three minutes over.

647

01:35:42.180 --> 01:35:43.290

Kevin Dykema: Thanks for another good session.

648

01:35:43.800 --> 01:35:45.630

Brandie Waid: yeah, of course, thank you all.

649

01:35:45.990 --> 01:35:46.830

Trena Wilkerson: Thanks so much.

650

01:35:47.850 --> 01:35:49.500

Kyle: Thanks have a good night.

651

01:35:49.650 --> 01:35:50.370

Trena Wilkerson: Have a good one.

652

01:35:56.460 --> 01:35:57.450

Brandie Waid: I got your.