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Publication Date

2021

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University of California, Santa Barbara

Influences Beyond the Classroom: Examining Education Policies at the Local,

National and Global Levels

A dissertation submitted in partial satisfaction of the requirements for the degree

Doctor of Philosophy in Education

by

Christopher Salem Ozuna

Committee in charge:

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March 2022

The dissertation of Christopher Salem Ozuna is approved.

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December 2021

Influences Beyond the Classroom: Examining Education Policies at the Local,
National and Global Levels

ACKNOWLEDGEMENTS

passed, my Uncle Doug, Nono and Candice: I think about you often, and your influences on me shine through in this work and many other aspects of my life.

And of course to my mom, Tina: we lost you before you could see this part of my journey, but I hope I'm doing right by you in this scholarship and, more importantly, in the person I am and will become.

VITA OF CHRISTOPHER SALEM OZUNA

December 2021

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Gottfried, M. A., Kirksey, J. J., & **Ozuna, C. S**. (2020). Exploring the Links Between Student and Classmate Chronic Absenteeism. *Teachers College Record*, 122(12), 1-28.

Kirksey, J.J., Sattin-Bajaj, C.S., Gottfried, M.A., Freeman, J.A., & **Ozuna, C.S.** (2020). Deportations Near the Schoolyard: Examining Immigration Enforcement and Racial/Ethnic Gaps in Educational Outcomes. *AERA Open*, 6(1), 1-18.

Graves, J., Weisburd, S., & **Salem, C.** (2018) The Ills of Absenteeism: Can School-Based Health Centers Provide the Cure? In M.A. Gottfried & E.L. Hutt (Eds.) Absent From School. Cambridge, MA: Harvard Education Publishing Group

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ABSTRACT

Influences Beyond the Classroom: Examining Education Policies at the Local,

National and Global Levels

By

Christopher Salem Ozuna

While education is often talked about as a standalone system, most people

experience education as just one part of their broader lives. Schools do not exist in

siloes, but serve as a place where people and policy overlap and intersect. The

implication of this is that while what happens inside of school buildings is incredibly

important, such as curricula, pedagogical choices, or leadership decisions, what

happens outside of the school and classroom also matters. This dissertation is a

collection of three studies, each investigating an example of an education policy

related to, but not directly taking place inside of the classroom.

The first study, a co-authored project, examines how school-bus taking habits

are related to attendance behaviors for kindergarteners with disabilities. Using

ECLS-K, a nationally representative dataset of elementary students, this study finds

correlations between certain groups of students with disabilities based on diagnosis

type. In particular, students with the most common diagnosis types have better

attendance rates when they ride the school-bus. The implication is that outside

services such as school transportation, often controlled at the local level, have the

potential to impact what happens in classrooms, in this case attendance.

The second study is a comparative look at the structure of teacher education

programs in California and Denmark. Through interviews with teacher candidates

(students enrolled in a teacher education program) and instructors, this study examines how participants experience three focus concepts in their programs: program structure, social responsibility of teaching, and the inclusion of culturally sustaining pedagogies in teacher education curriculum. This study finds that the programs in both locations had highly structured and collaborative programs, but that each differed in the other concepts. Danish participants tended to express a very cohesive view of the social purpose of teaching and schooling, especially as it related to the continued stability of Denmark's democracy. Californian participants expressed high concern in prioritizing the broader integration of culturally sustaining pedagogies in their programs. This study shows how a higher-level policy (at the state level in California, and the national level in Denmark) such as teacher education influences how schools operate downstream from the policy.

The third study traces the development of two frameworks for understanding international cooperation across education systems. Through an examination of the founding documents for the Organisation for Economic Co-operation and Development's Programme for International Student Assessment (commonly referred to as PISA) and the Futures of Education framework more recently offered by the United Nations Educational, Scientific and Cultural Organization (UNESCO), this study compares the goals of both frameworks and what they mean for participating countries. PISA has largely dominated international education discussions for two decades, but with the emergence of Futures in the past few years, there may be an appetite for changing how countries compare their education systems and what they hope to gain from international comparisons in the first place.

Combined, these three studies demonstrate the way education policy is interwoven with many systems and aspects outside of the classroom. Understanding the complexity and nuance of these overlapping systems can help policymakers as they navigate how to identify, define and then achieve the desired outcomes for students, families, teachers and school leaders. Recognizing and focusing on the way education systems impact participants beyond the traditional measures of student success is key to creating and sustaining just and equitable systems for all.

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INTRODUCTION

Education is a system that people experience on an incredibly local scale, but is shaped by larger forces at the state, national and global level. Similarly, the people who are responsible for implementing the system, whether that is a classroom teacher, a district superintendent or an administrator at the federal Department of Education, often experience their own role with very little overlap outside their own site. In the US education system, this is part of the design: education is largely a local endeavor and is very segmented from other parts of the system. Yet, this is in contrast with the way people experience education. Individual people experience education as just one of many overlapping areas of their lives. This has implications for policymakers: often policies aim to affect one aspect of the system, but I argue that this approach can have unintended consequences if the broader context is not considered. This dissertation aims to show how broader social context can be considered when designing, implementing and interpreting policy at different levels of the education system.

Study 1 examines the bus-taking habits of kindergarten students in special education. Using a nationally representative dataset, my research team explores how bus-ridership by disability diagnosis is related to attendance patterns for these kindergarteners. We posit that the school bus may be a possible intervention for improving attendance among elementary students, and this may be especially true for those in special education. This is an example of a policy arena, school transportation, that exists largely on the hyperlocal level: school bus service is designed and run by local districts, charter or private schools. While not directly an

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academic service that receives typical levels of policy attention (such as types of reading or math curriculum, for example), it is still a crucial piece of making our school systems work: students cannot learn if they cannot get to school reliably and on-time.

Additionally, this study is a collaborative writing effort. I worked on this with my classmate Michael Lloydhauser at UCSB, as well as with my advisor, Dr. Michael Gottfried. Our research team of three worked together to construct the research questions, gather, clean and verify the data, establish an analysis plan, design and run the models, and then interpret the results. Collaboration is key in education research, and I am glad to be able to offer an example of my commitment to teamwork as part of this dissertation. With their cooperation and permission, this study is included here. While all of us did contribute to this study, I was primarily responsible for data cleaning, the modeling and analysis, and components of the subsequent interpretation.

Study 2 is an international comparative study of teacher education programs (TEPs). In this study, I conducted interviews with teacher candidates (students enrolled in a TEP) and instructors in TEPs in both California and Denmark. These interviews focused on candidates' and instructors' experience with three focus concepts in their programs: program structure, social responsibility and culturally sustaining pedagogies. I examine the themes presented by participants during the interviews and try to make sense of them as it relates to what each teacher education system, California's and Denmark's, could learn from the other. This study is an example of how higher-level policies shape what is happening in local schools

as the teacher education system will directly influence how a teacher is prepared upon entering the classroom.

Study 3 explores a policy debate that is occurring in near real-time (at the time of writing). The United Nations Education, Scientific and Cultural Organization (UNESCO) released its Futures of Education framework in the fall of 2021. This document presents a rethinking of the purpose of schooling, and encourages countries around the world to commit to a radical transformation of their education systems to meet the planet's current major challenges: growing inequality, backsliding democracy and climate change, to name a few. While this international policy discussion is ongoing, I use this study to trace back international cooperation in education back to the start of the Programme for International Student Assessment (PISA). PISA has been the global reference point for international comparisons in education since its inception in 1999. In this study, I explore the context in which PISA was created, whether it is serving its original goals, and how UNESCO's Futures framework may or may not be more relevant for today's context. This study is an example of how international policies that may seem incredibly far away from your local school, do have influence and effects on domestic education policy, as well as how domestic policies can be part of a more collaborative international effort.

Each of these studies uses different types of data and methods to answer their respective research questions. In Study 1, I use advanced quantitative methods to examine the nationally representative Early Childhood Longitudinal Study - Kindergarten (ECLS-K: 2011) dataset, focusing on a cohort of students who were

kindergarteners in the 2010-11 school year. In Study 2, I recruited and interviewed a sample of 14 teacher candidates and instructors from 3 TEPs in California and Denmark. After transcribing the interviews, I used a qualitative content analysis approach to extract segments of the interviews according to the three focus concepts I was interested in. This corpus then served as a source of analysis in understanding the experiences in teacher education of my participants. In Study 3, I used source texts from the PISA and UNESCO Futures programs, and employed a multi-site ethnographic approach to "follow policy" over a period of time and across geographic contexts. I selected these three different method types in order to demonstrate the many different ways education policy can be investigated and understood, from bird's-eye view, large datasets, to talking directly with people involved with education programs on the ground. I hope to retain this commitment to understanding and practicing policy research at these different levels throughout my work in education.

This dissertation begins with Study 1, exploring the bus-ridership patterns of kindergarteners in special education. Then, Study 2 investigates the experiences in teacher education in California and in Denmark, while discussing policy implications for each system. Study 3 tracks the history of international comparative education frameworks, starting with the introduction of PISA in 1999, and comparing it to the new effort by UNESCO with Futures of Education. Lastly, this dissertation will conclude with a synthesis of the findings of each study, as well as a discussion of policy implications for educators, policymakers and other stakeholders.

STUDY 1: SCHOOL-BUS TAKING FOR STUDENTS WITH DISABILITIES: WHO'S

ON BOARD?

Transportation services have been an integral part of American schooling for almost as long as there have been school systems (National Association of Directors of Pupil Transportation Services, 2000). As school districts have grown larger and roadways have become more complex, various complications related to school transportation have surfaced (i.e., commute time, safety, pollution); yet in spite of these issues, there has always been an unwavering effort to continue providing routine and reliable ways for children to better attend school (National Association of Directors of Pupil Transportation Services, 2000). At present, more than half of K-12 students get to school using publicly funded transportation (Snyder et al., 2019). And yet, given its ubiquitous nature and historical roots in U.S. education, it is surprising that so little research focuses on school transportation and its link to students' actually getting to school more frequently (Gottfried, 2017; Stein & Grigg, 2019). Surprisingly, nothing is known about this link for students with disabilities (SWDs).

When considering the multitude of factors of the schooling experience, providing buses to help a child physically get to school (i.e., bus taking) is an area where policy makers have a potentially high amount of agency, both in terms of implementation as well as funding (Gottfried, 2017). The costs associated with transportation is considerable and transportation policy has been linked to student health and well-being (Urban Institute Student Transportation Working Group, 2017). Combined with an increased federal and state focus on absenteeism as a key child outcome and accountability metric in policy (Bauer, Schanzenbach & Shambaugh,

2018), it appears that bus taking could be an even more impactful lever in helping students better attend school in upcoming years. In short, absenteeism can have both academic and developmental effects on students (Gottfried, 2014; Gershenson, Jacknowitz & Brannegan, 2017). That is, if students are not in school, they cannot be taught. Therefore, the bus could serve as one important way for schools and policymakers to address absenteeism.

In order to expand on our knowledge on the role of school transportation, this study focuses on the intersection of school bus taking and absenteeism, particularly for SWDs who have received virtually no attention in this area. With regards to SWDs and transportation, in 1975, the Individuals with Disabilities Education Act (IDEA), was signed into law which guaranteed a free and appropriate education to SWDs in the least restrictive environment (U.S, Department of Education, 2015). Within the text of the law, transportation is considered a "related service", (sec. 602) which is a term that is used throughout IDEA. It is important to note that not all SWDs are provided transportation as a result of their disability, but it can be deemed a necessary related service as we describe later in this work. Providing SWDs transportation to and from school is important because in order to provide the appropriate education the law calls for, students are often assigned to schools that are further away, resulting in longer commutes (Kamali, Mason & Pohl, 2013). Additionally, specialized equipment for wheelchairs as well as additional staffing needs increase the cost of transportation services for school districts serving SWDs (Caceres, Batta & He, 2019). Given the relative cost of transportation for SWDs, as

well as the understanding of SWDs as a particularly vulnerable population, these topics have a wide range of stakeholders.

Given the presence of these policies and laws, we reiterate that there is a major void in the literature with regard to bus taking for SWDs. Therefore, our work was guided by the following two research questions:

1. What characteristics and behaviors are associated with school bus taking for SWDs, particularly compared to general education students (GENs)?

2. How does school bus taking link to absence outcomes for SWDs versus GENs?

Why Kindergarteners?

In this study, we focused on kindergartners. One key reason is that out of all elementary years, absenteeism is the highest in kindergarten (Balfanz & Byrnes, 2012). To provide perspective, almost 25% of our nation's kindergartners are missing approximately 10% of the school year (Chang & Davis, 2015) – an amount that would label them as 'chronically absent' according to federal and state policy guidelines (Jordan & Miller, 2018). Indeed, the absence rates for SWDs are disproportionately higher; in a New York City study using administrative data SWDs were found to be 65% more likely to be chronically absent than GENs, with 29% of SWDs being chronically absent compared to 18% of GENs (Gottfried et al., 2019). Therefore, it is necessary to determine what school programs, factors, and experiences might be helping to promote better school attendance, such as the potential of school transportation.

Transitioning from early childhood and into kindergarten can be a challenging time for children and families (Curby et al., 2018; Rimm-Kaufman, Pianta, & Cox, 2000). In the U.S., it is estimated that about 35% of children ages 3 to 5 do not attend prekindergarten (U.S. Department of Education, 2018). Therefore, kindergarten is the first time that many students are attending formal schooling. Yet, even for students that attend prekindergarten, contexts and settings are likely to change significantly in the transition into kindergarten, which often exacerbates family stress, negative attitudes about school, and ultimately, absenteeism (Ansari & Purtell, 2018; Gottfried, 2017; Wildenger et al., 2008). It has been found that establishing routines are particularly helpful for kindergarten-aged students and have been shown to be associated with a variety of positive educational outcomes (Piscitello, Cummins, Kelley and Meyer, 2019; Bloomquist, 2006; Eisenberg, Olsen, Neumark-Sztainer, Story & Bearinger, 2004; Fiese, 2006; Koome, Hocking & Sutton, 2012).

We posit that taking the school bus is a way to help establish routines for school attendance, especially at this early age. While some families may decide that kindergarten is too young of an age to ride a bus alone, it is also appears reasonable that the school bus is reliable, under adult supervision (the driver and many districts may have a secondary adult monitoring the bus ride), and does not allow for any variation of the route. Students board the bus, and passengers do not disembark until their final destination: the school. However, there is not much research on how loyal students stay to the school bus, and the ECLS-K data do not allow us to accurately explore this. Still, school bus ridership is generally the second most

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common way for students to travel to school in the U.S. after private vehicles (Burgoyne-Allen & O'Neal Schiess, 2017). This demand is not likely to diminish anytime soon.

Prior research has shown that for GENs, taking the bus to school can be one way to provide structure for routine setting, and this has been linked to better school attendance (Gottfried, 2017; Stein & Grigg, 2019). For example, Stein and Grigg (2019) found that for students using public transportation to get to school, changes in routes (i.e longer and more complex routes) were associated with changes in school attendance. Relying on mass transit to get to school is inferior to driving (Burdick-Will et al., 2019). The underlying mechanism, as shown by Gottfried (2017) is that the bus provides set times and places for the entire school year as well as a consistency in people on the bus, such as the driver and other students. This routinization in school-going and familiarity with adults and peers make children (and families) more comfortable in their transition to and from school during kindergarten. As a result, stress about going to school declines, and attendance improves. Additionally, taking the school bus is an example of a routine that is held in place by an external factor. While walking to school or driving in a personal car may also represent a routine, the school bus has a scheduled time each school day, providing an external structure to morning routines, as well as alleviating a task from households which may especially useful if the adults' schedules may conflict with providing transportation to school, the household does not have reliable vehicle access, or the distance between home and school is too great or difficult to cover on foot.

While we discuss the positive aspects of the school bus as it relates to logistics and routine-setting, it is important to also acknowledge the challenges that may be unique to a school bus setting. One of these challenges relates to bullying that may take place on the school bus. A study of bus drivers in one New York district found that more than half of bus drivers reported seeing bullying on their routes on a daily basis (deLara, 2010), and recommended that school administrators extend school behavior instruction to the school bus ride. Another study looking at where bullying occurred during the school day found that while 9.8% of participants directly responded that the school bus felt unsafe, this was lower than many other locations throughout the school day, including the hallway, lunchroom, recess/playground and even the classroom (Vaillancourt et al., 2010). While bullying on the school bus is definitely needs to be considered, there is not extensive research specifically on how this impacts kindergarten students or students with disabilities, and bullying appears to be a broader issue at schools that is not unique to the school bus.

Given that the bus helps to set routines, we believe that bus-taking can be helpful for SWDs, particularly because setting routines has been raised as an important facet for SWDs (Korinek & deFur, 2016). For example, for students with autism, routines have been associated with an increase in social interaction with both teachers and students (Olsen, Croydon, Olson, Jacobsen & Pellicano, 2019). Routines have been shown to decrease emotional and behavioral problems in students with ADHD (Harris et al., 2014) and have also been connected to independence (Deshler et al., 2001). Additionally, transportation allows access to

programs that SWDs need (Urban Institute Student Transportation Working Group, 2017). We posit that when SWDs do not have a reliable way to get to and from school, this exacerbates stress about school and reduces school-going attitudes, ultimately reducing attendance. Hence, with the understanding that routines benefit all young students, especially SWDs and that taking the bus to school is a key way to set routines, our research has important implications for potential ways to improve school attendance for SWDs.

Method

Sources of Data

The data used for these analyses came from the Early Childhood Longitudinal Study – Kindergarten Class of 2010-2011 (ECLS-K:2011). This dataset was created by the U.S. Department of Education's National Center for Education Statistics (NCES). NCES compiled a national cohort of children who were in kindergarten during the 2010-2011 school year. Information was collected via interviews and surveys with parents, teachers and school administrators, as well through direct assessments of the kindergarten students. NCES employed a three-stage stratified sampling design to ensure a sample that was nationally representative of kindergarten students across the U.S. ECLS-K:2011 consists of multiple waves of survey data, beginning with the fall and spring of the children's kindergarten year. This study uses these first two waves (fall and spring) when the students were in kindergarten. After multiple imputation of all variables (except disability), we had a total sample size of approximately N = 11,670 kindergarten students in the entire sample, with approximately 1,200 of those kindergarteners being SWDs, and

approximately 600 of these SWDs had specific diagnosis information. While we focus on the kindergarten year due to its importance as a transition year and high rates of absenteeism, the structure of ECLS-K also makes the kindergarten year the most feasible year to examine school transportation modes. The question is included as part of the parent survey and is not repeated in each follow-up year in a consistent manner. For this additional reason, we are chose to focus on the kindergarten year.

Based on the data provided by NCES, we divided our sample into those students with (SWDs) and without disabilities (GENs), as seen in Table 1. We were able to do so because official school records contained information on whether the child had an individualized education program (IEP) on file at school. IEPs are developed annually for all students that have been placed in special education. They consist of annual educational goals, accommodations and services deemed appropriate for the student. They are developed by the educational team, including special education teachers, general education teachers, service providers, administrators, parents and starting at age 14, the students themselves. This team meets once a year to determine the students' needs, goals and appropriate services, including transportation. Based on having an IEP, disability diagnosis was sourced from the teacher who reported the primary area of disability for the child. This categorization information is available for approximately 600 of the SWDs within the sample. Per one of the previous Author's work, (2014 & 2016), the ECLS-K dataset does not allow for the exploration of all 13 categories of IDEA. Instead, we grouped the disability diagnoses into two categories based on the frequency with which they

occurred across the subsample of students whose diagnosis information was available: approximately 600 students in total. For these 600 students, we were able to do a more in-depth exploration of their relationship to bus ridership based on diagnosis type. Those "high incidence" diagnoses (HI) were those that occurred most frequently and were comprised of students who received diagnoses (and IEPs) in speech/language, developmental disabilities or the autism spectrum. These students accounted for approximately 80% of all the sample of SWDs. Of the HI group, 57% of those students are in the speech and language group, 13% in the autism spectrum group, and 30% in the developmental disability group.

These three diagnosis areas largely correspond with national statistics from the same year and have maintained those patterns through to today (NCES, 2019). One area to note with special consideration is the diagnosis category of "developmental disability" as while this term is not one of the three largest diagnosis groups for all students ages 3-21, it is typically more commonly used in elementary aged children and younger, giving it more relevance in this study. Additionally, when considering any policy implications around the school bus, knowing how it might impact more of the special education population is useful as this type of school bus is typically meant to serve more students and not those with more specialized transportation needs.

"Low incidence" diagnoses (LI) comprised of the remaining categories: specific learning disability, emotional/behavioral disability, intellectual disability, visual, hearing or orthopedic disability, traumatic brain injury and other health impairments. This again is especially relevant when considering the implications of

the school bus as a policy mechanism, as students with less frequently diagnosed disabilities may be more likely to require specific, customized transportation solutions (such as a child with an orthopedic impairment that may not be able to access a non-modified vehicle) beyond what the school bus can provide.

Table 1

Table 1: *Descriptive Statistics*

	SWDs				GENs				SWDs Grouping Broken into High Indidence and Low Incidence							
	Bus		No Bus		Bus		No Bus		HI - Bus		HI - No Bus		LI - Bus		LI - No Bus	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Outcome																
Days Absent	6.79	0.28	6.77	0.28	5.49	0.09	5.69	0.06	6.17	0.38	7.40	0.45	6.86	0.91	6.57	0.97
Chronically Absent	0.18	0.02	0.19	0.02	0.11	0.01	0.12	0.00	0.16	0.03	0.22	0.03	0.16	0.07	0.17	0.07
Key Variable																
High Incidence Diagnosis	0.92	0.01	0.93	0.01	0.00		0.00		1.00		1.00		0.00		0.00	
Low Incidence Diagnosis	0.08	0.01	0.07	0.01	0.00		0.00		0.00		0.00		1.00		1.00	
Student Demographics																
Male	0.70	0.03	0.71	0.02	0.52	0.01	0.50	0.01	0.70	0.04	0.71	0.04	0.59	0.09	0.72	0.08
Black	0.12	0.02	0.12	0.02	0.13	0.01	0.09	0.00	0.15	0.03	0.10	0.02	0.03	0.03	0.07	0.05
Hispanic/Latinx	0.14	0.02	0.14	0.02	0.15	0.01	0.23	0.01	0.15	0.03	0.14	0.03	0.09	0.05	0.10	0.06
Asian	0.02	0.01	0.02	0.01	0.05	0.00	0.07	0.00	0.01	0.01	0.03	0.01	0.00		0.00	
Other Race/Ethnicity	0.08	0.01	0.08	0.02	0.06	0.00	0.06	0.00	0.09	0.02	0.08	0.02	0.06	0.04	0.10	0.06
ELL Status	0.07	0.01	0.08	0.01	0.12	0.01	0.14	0.00	0.10	0.02	0.05	0.02	0.03	0.03	0.10	0.06
Student Skills																
Reading	27.89	0.71	28.27	0.74	34.96	0.23	36.55	0.16	26.67	1.11	29.28	1.02	26.97	2.17	31.31	2.95
Math	21.50	0.69	21.77	0.70	30.27	0.21	30.96	0.15	20.06	1.09	23.45	0.93	18.96	2.46	21.76	2.72
Self-Control	1.68	0.19	1.81	0.18	2.03	0.07	2.13	0.04	1.65	0.28	1.92	0.25	0.73	0.85	2.10	0.42
Interpersonal Skills	1.77	0.17	1.76	0.17	2.11	0.06	2.16	0.04	1.77	0.25	1.85	0.25	1.36	0.71	1.21	0.66
Approach to Learning	2.40	0.07	2.35	0.08	2.93	0.02	2.93	0.02	2.27	0.12	2.51	0.10	2.50	0.11	1.88	0.41
School Experience																
Public School	0.98	0.01	0.98	0.01	0.95	0.00	0.80	0.01	0.98	0.01	0.99	0.01	0.97	0.03	0.93	0.05
Distance to School	5.23	0.13	5.14	0.13	5.70	0.10	4.76	0.05	5.73	0.19	4.76	0.19	5.16	0.38	4.03	0.53
Time to School	14.46	0.48	13.92	0.47	16.70	0.18	10.01	0.08	18.68	0.72	9.95	0.48	16.17	1.62	10.09	1.07
Pre K Experience	0.72	0.02	0.73	0.02	0.67	0.01	0.71	0.01	0.69	0.04	0.75	0.04	0.69	0.08	0.83	0.07
Hours per Week in Pre K	13.24	0.61	13.51	0.62	14.86	0.26	16.36	0.19	12.12	0.86	14.67	0.96	11.69	1.67	14.66	1.98
Family Structure and Routines																
Two-parent Household	0.74	0.02	0.73	0.02	0.80	0.01	0.80	0.01	0.72	0.04	0.73	0.04	0.91	0.05	0.72	0.08
Number of Siblings	1.48	0.06	1.42	0.06	1.61	0.02	1.41	0.01	1.58	0.11	1.34	0.08	1.69	0.20	0.97	0.16
Older Sibling	0.50	0.03	0.48	0.03	0.57	0.01	0.50	0.01	0.50	0.04	0.48	0.04	0.56	0.09	0.34	0.09
Sibling Goes to Same School	0.01	0.01	0.02	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.02	0.01	0.00		0.03	0.03
Age of Mother	24.10	0.32	23.95	0.31	24.17	0.11	25.12	0.08	24.09	0.47	23.54	0.46	26.81	1.26	25.45	0.97
Books in the Home	97.93	9.36	96.01	9.07	88.66	2.75	92.76	1.84	86.09	10.47	109.52	16.57	98.34	30.86	76.41	14.37
Mother's Education																
Some College	0.43	0.03	0.43	0.03	0.32	0.01	0.32	0.01	0.40	0.04	0.48	0.04	0.34	0.09	0.34	0.09
College Degree or Higher	0.22	0.02	0.22	0.02	0.33	0.01	0.41	0.01	0.20	0.03	0.24	0.03	0.28	0.08	0.28	0.08
Father's Education																
Some College	0.27	0.02	0.25	0.02	0.23	0.01	0.22	0.01	0.21	0.03	0.32	0.04	0.34	0.09	0.07	0.05
College Degree or Higher	0.18	0.02	0.18	0.02	0.27	0.01	0.34	0.01	0.16	0.03	0.20	0.03	0.25	0.08	0.17	0.07
Income	54,680.06	2,490.58	54,376.88	2,513.90	67,268.57	1,040.79	72,493.63	720.48	57,201.99	4,052.29	50,947.71	3,291.14	60,625.00	8,409.26	57,758.62	9,384.00
Public Assistance Status	0.31	0.03	0.32	0.03	0.28	0.01	0.22	0.01	0.34	0.04	0.31	0.04	0.22	0.07	0.34	0.09
Urban Location	0.20	0.02	0.20	0.02	0.16	0.01	0.34	0.01	0.17	0.03	0.23	0.03	0.16	0.07	0.21	0.08
Rural Location	0.35	0.03	0.35	0.03	0.35	0.01	0.19	0.01	0.38	0.04	0.32	0.04	0.31	0.08	0.34	0.09
Mother Employed Full-time	0.32	0.03	0.33	0.03	0.33	0.01	0.37	0.01	0.29	0.04	0.36	0.04	0.25	0.08	0.34	0.09
Father Employed Full-time	0.63	0.03	0.62	0.03	0.67	0.01	0.68	0.01	0.60	0.04	0.64	0.04	0.72	0.08	0.55	0.09
Child Has Regular Bedtime	0.89	0.02	0.89	0.02	0.93	0.01	0.92	0.00	0.88	0.03	0.90	0.02	0.91	0.05	0.97	0.03
Family Has Breakfast Together Regula	5.42	0.09	5.45	0.09	5.42	0.03	5.51	0.02	5.25	0.16	5.56	0.10	5.59	0.31	5.93	0.21
Number of Breakfasts per Week	3.74	0.13	3.84	0.13	3.84	0.05	4.03	0.03	3.68	0.20	3.86	0.19	3.47	0.42	4.62	0.45
Family Has Dinner Together Regularly	5.64	0.09	5.67	0.09	5.55	0.03	5.48	0.02	5.62	0.14	5.69	0.13	5.50	0.36	5.83	0.27
Number of Dinners per Week	5.76	0.10	5.75	0.10	5.91	0.03	5.78	0.02	5.63	0.16	5.83	0.13	6.00	0.30	6.00	0.28
n	600		600		3,140		7,340		260		210		50		40	

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Outcomes

Table 1 presents the descriptive statistics for the dependent and independent variables used in this study. We used two measures of student absenteeism as our outcome, using information from the spring survey of the 2010-11 academic year. The classroom teacher reports the number of absences up to that point in the school year. They select from set categories: 0 absences, 1 to 4, 5 to 7, 8 to 10, 11 to 19 and 20 or more. These ranges coincide with brackets previously established in absence literature (Chang & Romero, 2008; Morrissey et al., 2014). As is also an established practice in these studies, we also interpret the coefficients as number of days absent. The second absence measure was a binary indicator that identified if a student was chronically absent (defined as 11 or more school days at the time of the survey – March of the school year, per Gottfried, 2014). While the definition of chronic absenteeism has not been completely standardized, the general consensus uses the threshold of missing more than two weeks of the school year (Gottfried, 2014, 2015; Allensworth & Easton, 2007), and this is the definition our study used.

School Bus

In the parent survey from spring of the 2010-11 academic year, parents were asked to indicate how their child usually gets to school each day. NCES provided a set of discrete choices and parents could select only one answer. Using the responses from this question, we created a binary indicator to show whether or not the child used the school bus to travel to school each day or not. The other options included: being driven in a private car by a parent or family member, carpooling with people outside of the family, walking, riding a bike/scooter and other. Other could encompass transportation types not listed, including public transportation via a metro

bus or rail system. We have narrowed our focus to the "school bus" to indicate that students are on a bus where the intention is to provide transportation for students in the school system. In the entire ECLS-K sample, approximately 31% of students rode the school bus as their primary mode of transportation during the 2010-11 school year. Approximately 50% of all SWDs rode the school bus across HI and LI diagnoses groups, both when combined and separated. This is consistent with other national surveys on school transportation (Burgoyne-Allen & O'Neal Schiess, 2017: Snyder, deBre & Dillow, 2019).

Control Variables

The control variables listed in Table 1 were chosen based on their relationship to routine-setting and bus-taking to help better understand how the use of the school bus may relate to absence outcomes. As a result, we have several categories of control variables including student demographics, student skills, information on the child's school experience, and information around the child's family structure and routines.

Student Demographics

A set of commonly used demographic characteristics was used which included a binary variable for gender, with female as the reference group, in addition to variables for race/ethnicity and a binary indicator for whether or not the child is an English language learner.

Student skills

ECLS-K also provides data on a child's skills. These are obtained through direct assessments in reading and math, and also through a teacher direct assessment of the child's skills in self-control, interpersonal interactions and their

approach to learning. Information about these scales is available on the publicly-available website for ECLS-K.

School Experience

We included controls on the child's current and previous school experience. Using data from the teacher and parent surveys, we included a binary indicator for if the school was public or not, how far (in miles) the child lives from school, and how long the commute (in minutes) takes. Additionally, we included a binary indicator for if the child had attended a pre-school program, as well as a measure of how many hours a week they attended that program.

Family structure and routines

This category of control variables consisted of several measures of the family's demographic information including if the child was in a two-parent household, how many siblings they had, if they have an older sibling, if they have a sibling attending their same school, the age of their mother, the number of books in the home, education levels of both parents, employment status of both parents, income level, if the family is receiving public assistance, and if the child is in an urban or rural setting (with suburban as the reference group). We also used measures of household routines for the child, including if the child has a regular bedtime most nights, if the family has breakfast or dinner together regularly, and the number of these shared meals each week.

Descriptive statistics

Table 1 provides an overview of the means and standard deviations for each of the variables for our three main comparisons: SWDs on the bus and not on the bus and GENs on the bus and not on the bus. The second portion of the table

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breaks the SWD group into HI and LI diagnoses on the bus and not on the bus. While SWDs do miss more days of school and are more often chronically absent than GENs, on average students in the HI diagnosis group who rode the bus do miss fewer days than their non-bus riding HI diagnosis peers, 6.17 days compared to 7.40 days, and also than SWDs as an entire group both on and off the bus, 6.79 days and 6.77 days, respectively. Students with an HI diagnosis who ride the bus are less chronically absent than their non bus riding HI diagnosis peers, with 16% versus 22%, respectively. On average, GENs who ride the bus miss the fewest days of school of all the groups we investigated, at 5.49 days and have the lowest percentage of students chronically absent at 11%.

Analytic Approach

This study is descriptive in nature as we explore the possible relationship between absences and school busing for SWDs based on observable data from ECLS-K. We begin with a baseline model to explore possible correlations with school bus usage, and then follow up with a second set of models to explore the interaction between diagnosis type and school bus usage on attendance outcomes.

Factors associated with school bus usage

To explore what factors may be associated with school bus usage, this study uses the following linear probability regression model as our baseline:

$$B_i = \beta 0 + \beta 1 SD_i + \beta 2 SS_i + \beta 3 SE_i + \beta 4 FSR_i + \varepsilon_{is}$$

where B is if the student uses the school bus or not. SD represents the set of student demographic controls, SS represents the set of controls for student skills, SE represents the set of school experience controls, FSR represents the set of

family controls, and ε represents the error term clustered by school. We ran this model for SWDs and GENs.

Bus usage and absenteeism

After exploring what factors are associated with taking the school bus, we explored if SWDs who took the bus were more or less absent compared to GENs. For this reason, we employed a second model:

$$A_i = \beta 0 + \beta 1 \text{BUS} * \text{SWD}_i + \beta 2 \text{BUS}_i + \beta 3 \text{SWD}_i + \beta 4 \text{SD}_i + \beta 5 \text{SS}_i + \beta 6 \text{SE}_i + \beta 7 \text{FSR}_i + \varepsilon_{is}$$

where BUS*SWD represents an interaction term between taking the school bus and having an IEP (note the main terms of the interaction are next included as separate variables). All other variables are those from the previous analysis. Since we have two outcomes, we ran the model as a standard linear regression for the number of days absent, and as a linear probability regression for chronic absence status. For the days absent model, the coefficients can be interpreted as the change in number of days absent, as shown in previous absenteeism literature (Gottfried, 2014, 2015; Gottfried et al., 2016). For the chronic absence model, the coefficients represent percentage point probabilities of being chronically absent.

Results

Exploring Bus Usage

Table 2 presents the results from our model exploring what factors are associated with bus usage for students. Column 1 shows the results for GENs only and Column 2 for all SWDs only.

Table 2

Table 2: Predictors of Taking the School Bus

	GENs	SWDs
Student Demographics		
Male	0.00 (0.01)	0.03 (0.02)
Black	0.10 (0.02) ***	0.10 (0.04) **
Hispanic/Latinx	-0.10 (0.01) ***	-0.05 (0.03)
Asian	-0.01 (0.02)	-0.03 (0.06)
Other Race/Ethnicity	0.01 (0.02)	0.01 (0.04)
ELL Status	0.05 (0.02)	0.06 (0.04)
Student Skills		
Reading	0.00 (0.00) ***	0.00 (0.00)
Math	0.00 (0.00) ***	0.00 (0.00)
Self-Control	0.00 (0.00)	0.00 (0.00)
Interpersonal Skills	0.00 (0.00)	0.00 (0.00)
Approach to Learning	0.00 (0.00)	0.00 (0.01)
School Experience		
Public School	0.24 (0.01) ***	0.26 (0.03) ***
Distance to School	0.00 (0.00)	0.00 (0.00)
Time to School	0.02 (0.00) ***	0.03 (0.00)
Pre K Experience	0.02 (0.01)	0.00 (0.02)
Hours per Week in Pre K	0.00 (0.00)	0.00 (0.00)
Family Structure and Routines		
Two-parent Household	0.02 (0.02)	0.02 (0.03)
Number of Siblings	0.02 (0.00) ***	0.01 (0.01)
Older Sibling	0.02 (0.01) **	0.02 (0.02)
Sibling Goes to Same School	0.01 (0.04)	-0.11 (0.07)
Age of Mother	0.00 (0.00)	0.00 (0.00)
Books in the Home	0.00 (0.00)	0.00 (0.00)
Mother's Education		
Some College	-0.06 (0.01) ***	-0.04 (0.03)
College Degree or Higher	-0.07 (0.02) ***	-0.07 (0.03) **
Father's Education		
Some College	0.00 (0.01)	0.00 (0.03)
College Degree or Higher	-0.01 (0.02)	-0.02 (0.03)
Income	0.00 (0.00) *	0.00 (0.00)
Public Assistance Status	0.01 (0.01)	0.00 (0.03)
Urban Location	-0.14 (0.01) ***	-0.12 (0.02) ***
Rural Location	0.05 (0.01) ***	0.01 (0.02)
Mother Employed Full-time	-0.02 (0.01)	-0.02 (0.02)
Father Employed Full-time	-0.01 (0.02)	-0.03 (0.03)
Child Has Regular Bedtime	0.03 (0.02)	-0.03 (0.04)
Family Has Breakfast Together Regular	-0.01 (0.00)	0.00 (0.01)
Number of Breakfasts per Week	-0.01 (0.00) *	0.00 (0.00)
Family Has Dinner Together Regularly	0.00 (0.00)	0.01 (0.01)
Number of Dinners per Week	0.01 (0.00) **	-0.01 (0.01)
n	10,470	1,200

Note: Robust standard errors in parentheses. All regressions include a constant.
*** p<0.01, ** p<0.05, * p<0.10

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We found several significant factors correlated with bus usage for both SWDs and GENs. For both groups, Black students were more likely to take the bus to school compared to other groups. In the student skills category, none of the student personal skills were practically significant for either group. While reading and math are statistically significant for those students with disabilities, the coefficients are zero, indicating little practical significance. In the school experience category, attending a public school is the only statistically significant indicator for both groups, while most of the others, including prekindergarten experiences, are not. In the family structure and routines category, the education level of the child's mother, as well as living in an urban location are both statistically significant for both groups of students, while most of the others are not.

Differences also exist between the two groups. For GENs, the indicator for Hispanic/Latinx students is significant, while it is not for SWDs. In the student skills area, the academic assessment scores of reading and math skills are also statistically significant for GENs, but not for SWDs, although the practical significance seems minimal with a coefficient value rounding to 0. For family structure and routines, having an older sibling and the total number of siblings is also significant for GENs and not for SWDs. Additionally, living in a rural location is significantly correlated with taking the school bus for GENs in rural communities, as are the number of breakfasts and dinners per week. There are no variables included that were significant for SWDs but not for GENs.

School Bus Taking and Absenteeism

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Table 3 presents the results from our second empirical model (described above) looking at whether taking the school bus was associated to different absenteeism outcomes for kindergarten children with and without disabilities. There are two columns for each outcome. In the first column of each outcome, we have a model where we compare students with and without disabilities without any distinction between HI and LI diagnoses. In this model, there are several variables of note for the purposes of interpretation. The coefficient on SWD represents the difference in absence outcomes between students with and without disabilities. Effectively, this is the difference in absence rates for students who do not take the bus. The interaction term SWD*Bus represents the difference in absence outcomes for SWDs and GENs who do take the bus. This interaction is of most interest to this study. In the second and fourth columns of the table (i.e., models 2 and 4), we disaggregate SWD grouping into HI and LI disabilities. The interaction of diagnosis frequency with the Bus term provides insights into the role of bus taking for these two groups of students.

The first two columns present models where days absent was the outcome. As we can see in the first column, we examine SWD as an aggregate category and compare bus taking for SWDs and GENs. The first term shows that taking the bus for GENs is associated with a decline in days absent at school (1.5 fewer missed days), and is consistent with the findings from Gottfried (2017) who examined GENs. The second variable suggests that SWDs miss more school compared to GENs, as consistent with (Gottfried et al., in press). The interaction term in the third row is our key variable. However, in this first model, it is not statistically significant. In other

words, SWDs (when examined in the aggregate) do not seem to benefit in any particular way from taking the bus.

The findings become more nuanced when looking at the second model, where we disaggregate the SWD classification into HI and LI groups. Again, the bus term in the first row is statistically significant, indicating that GENs benefit from taking the bus. However, when examining the SWD categories as HI and LI, we see that that students with HI disabilities had fewer absences when riding the school bus – the interaction between HI*Bus was statistically significant. Hence, there does appear to be a bus-taking benefit for some SWDs – a distinction that was masked when examining SWDs in the aggregate in model 1. As seen in Table 3, HI students who ride the bus miss, on average, one fewer day of school compared to their non bus-riding GEN peers. This effect size is also practically significant, as it is the largest of any of the statistically significant effect sizes in the model. Considering that school bus is a policy mechanism that schools and districts have direct control over, this is an important consideration.

Table 3: Interaction Between Disability Type, Bus-Taking and Attendance Behaviors

	Days Absent		Chronic Absence	
	Model 1	Model 2	Model 3	Model 4
Key Variables				
Bus	-1.52 (0.52) **	-0.49 (0.12) ***	-0.07 (0.04) *	-0.04 (0.01) ***
SWDs	0.47 (0.13) ***	Not included	0.02 (0.01) *	Not included
Bus * SWD	0.88 (0.91)	Not included	0.04 (0.06)	Not included
HI SWD	Not included	0.87 (0.38)	Not included	0.05 (0.03)
Bus * HI SWD	Not included	-1.03 (0.52) *	Not included	-0.04 (0.04)
LI SWD	Not included	-0.92 (0.80)	Not included	0.03 (0.06)
Bus * LI SWD	Not included	0.00 (0.00)	Not included	0.00 (0.00)
Student Demographics				
Male	-0.05 (0.10)	-0.05 (0.10)	0.01 (0.01)	0.01 (0.01)
Black	-0.59 (0.18) ***	-0.59 (0.18) ***	0.00 (0.01)	0.00 (0.01)
Hispanic/Latinx	-0.10 (0.15)	-0.10 (0.15)	0.00 (0.01)	0.00 (0.01)
Asian	0.86 (0.23) ***	0.86 (0.23) ***	0.06 (0.02) ***	0.06 (0.02) ***
Other Race/Ethnicity	0.62 (0.20) **	0.62 (0.20) **	0.05 (0.01) ***	0.05 (0.01) ***
ELL Status	-0.72 (0.18) ***	-0.72 (0.18) ***	-0.03 (0.01) **	-0.03 (0.01) **
Student Skills				
Reading	-0.02 (0.01) *	-0.02 (0.01) *	0.00 (0.00) *	0.00 (0.00) *
Math	-0.02 (0.01) *	-0.02 (0.01) *	0.00 (0.00)	0.00 (0.00)
Self-Control	0.01 (0.02)	0.01 (0.02)	0.00 (0.00)	0.00 (0.00)
Interpersonal Skills	0.00 (0.02)	0.00 (0.02)	0.00 (0.00)	0.00 (0.00)
Approach to Learning	0.02 (0.04)	0.02 (0.04)	0.00 (0.00)	0.00 (0.00)
School Experience				
Public School	-0.07 (0.15)	-0.07 (0.15)	0.00 (0.01)	0.00 (0.01)
Distance to School	0.03 (0.01) *	0.03 (0.01) *	0.00 (0.00)	0.00 (0.00) *
Time to School	0.01 (0.01)	0.01 (0.01)	0.00 (0.00)	0.00 (0.00)
Pre K Experience	-0.41 (0.11) ***	-0.41 (0.11) ***	-0.03 (0.01)	-0.03 (0.01) ***
Hours per Week in Pre K	-0.01 (0.00) **	-0.01 (0.00) **	0.00 (0.00)	0.00 (0.00) *
Family Structure and Routines				
Two-parent Household	-0.18 (0.18)	-0.18 (0.18)	-0.01 (0.01)	-0.01 (0.01)
Number of Siblings	-0.18 (0.05) ***	-0.18 (0.05) ***	-0.01 (0.00) **	-0.01 (0.00) **
Older Sibling	-0.46 (0.11) ***	-0.46 (0.11) ***	-0.02 (0.01) **	-0.02 (0.01) **
Sibling Goes to Same School	0.84 (0.40) *	0.84 (0.40) *	0.05 (0.03)	0.05 (0.03)
Age of Mother	-0.06 (0.01) ***	-0.06 (0.01) ***	0.00 (0.00) ***	0.00 (0.00) ***
Books in the Home	0.00 (0.00) *	0.00 (0.00) *	0.00 (0.00)	0.00 (0.00)
Mother's Education				
Some College	-0.10 (0.13)	-0.10 (0.13)	-0.01 (0.01)	-0.01 (0.01)
College Degree or Higher	-0.36 (0.16) *	-0.36 (0.16) *	-0.02 (0.01) *	-0.02 (0.01) *
Father's Education				
Some College	-0.01 (0.15)	-0.01 (0.15)	0.01 (0.01)	0.01 (0.01)
College Degree or Higher	0.12 (0.17)	0.12 (0.17)	0.02 (0.01)	0.02 (0.01)
Income	0.00 (0.00) *	0.00 (0.00) *	0.00 (0.00)	0.00 (0.00)
Public Assistance Status	0.95 (0.14) ***	0.95 (0.14) ***	0.05 (0.01) ***	0.05 (0.01) ***
Urban Location	-0.18 (0.12)	-0.18 (0.12)	-0.02 (0.01) *	-0.02 (0.01) *
Rural Location	0.14 (0.14)	0.14 (0.14)	0.00 (0.01)	0.00 (0.01)
Mother Employed Full-time	-0.62 (0.11) ***	-0.62 (0.11) ***	-0.03 (0.01) ***	-0.03 (0.01) ***
Father Employed Full-time	-0.41 (0.16) **	-0.41 (0.16) **	-0.01 (0.01)	-0.01 (0.01)
Child Has Regular Bedtime	-0.65 (0.18) ***	-0.65 (0.18) ***	-0.04 (0.01) ***	-0.04 (0.01) ***
Family Has Breakfast Together Regularly	0.03 (0.03)	0.03 (0.03)	0.00 (0.00)	0.00 (0.00)
Number of Breakfasts per Week	-0.01 (0.02)	-0.01 (0.02)	0.00 (0.00)	0.00 (0.00)
Family Has Dinner Together Regularly	0.01 (0.03)	0.01 (0.03)	0.00 (0.00)	0.00 (0.00)
Number of Dinners per Week	-0.01 (0.03)	-0.01 (0.03)	0.00 (0.00)	0.00 (0.00)
n	11,670	11,670	11,670	11,670

Note: Robust standard errors in parentheses. All regressions include a constant. *** p<0.01, ** p<0.05, * p<0.10

The latter two models examine chronic absence as an outcome. While bus-taking does appear to benefit GENs as seen in the first row, there are no observable benefits for SWDs aggregately or HI and LI categories. Therefore, the overall summary of this analysis is that while taking the bus might help reduce days absent for students with HI disabilities, the bus does not help reduce chronic absence – i.e., an extreme form of absenteeism where students are missing more than 10% of the school year.

Discussion

School bus service is uniquely positioned as a potential intervention to promote positive attendance behaviors. Schools and districts generally have much greater control over the way bus service is operated in their jurisdiction, and this study contributes to the growing body of research that shows the potential of bus service as an intervention for specific groups of students, HI SWDs in this case. In this section, we discuss in more detail the results as they relate to school bus usage for kindergarteners in general, and then in more detail for kindergarteners with disabilities.

General Considerations of School Bus Usage

In our exploration of differences between rates of school bus usage between GEN students and SWDs, we can also see that there are many student characteristics that may be related to the propensity to take the bus (see Table 2). Black students ride the bus more often than white students, all else held equal, and students (regardless of race) are less likely to use the bus if their parent is college-educated. There are many things that influence a child's experience in school, and

many of these are outside of the control of the school. The school bus represents a possible tool to help equalize access to educational opportunities by helping to get students there in the first place.

This is more relevant to consider given that many school districts are cutting school bus service as a cost-saving measure. In one example, the Indianapolis Public Schools district cut bus service for 2,500 students as a way to help close a budget gap (Herron, 2021). In Missouri's 2019 state budget, more of the burden for transportation funding was shifted from the state to local districts, resulting in cuts to bus service (Columbia Missourian, 2019). Even the nonprofit group Safe Routes Partnership, which advocates for active transportation to school like biking and walking, recommends against cutting bus service simply to cut costs as it can result in more traffic and less safe options if a plan is not in place (Safe Routes Partnership, 2009). Ultimately this brings up the larger issue that the school bus is but one component in a more cohesive transportation plan that school districts offer, and decisions around service should be considered in the same way as decisions around instruction or curriculum: a balance of how it will impact students, whom it disproportionally helps and harms, along with the fiscal costs.

Considering Students with Disabilities

SWDs are typically the students with the highest needs in schools, and vast amounts of time, effort and work go into every evaluation, IEP design and implementation. Yet, the fundamental matter of these students attending school is often assumed and for most SWDs, is outside the purview of the IEP. This sets up a system where schools, administrators and teachers are reactive to poor attendance

behaviors rather than being proactive, as is preferred in all other areas of schooling. Past research has shown that for kindergarten students in particular, this pivotal shift into their K-12 careers, and the habits they establish, link to later outcomes with attendance, academic performance and even graduation. Therefore, it is crucial to set up healthy and positive habits across all the domains of behaviors that make a student successful. While there are many factors that influence bus taking behavior, policy makers can influence whether the bus is available to students or not. Understanding the relationship between transportation and attendance behaviors for SWDs can help policymakers and administrators have a more complete picture of the whole student, and identify areas where policy levers can be adjusted for the benefit of our students with the highest needs.

By utilizing the nationally representative ECLS-K dataset, we are able to identify the population of kindergarten students from the 2010-2011 school year that are in special education, as well as their main disability type identified by their IEP, in addition to their main transportation mode to school. These data are uniquely able to address a gap in how the school bus may be related to school outcomes, traits that correlate with attendance outcomes and how attendance outcomes differ between SWDs and GENs when moderated by the school bus. Taking the analyses a step further and disaggregating the SWD population into HI diagnoses and LI diagnoses we are able to address this gap in the research and begin to show how attendance behaviors may be moderated differently by the school bus for different groups of SWDs.

For students with HI diagnoses, taking the school bus is, on average, linked with better attendance than SWDs who do not ride the bus, all else held equal. This finding suggests that the often-overlooked school bus may provide additional benefits to students who already require additional help and attention in other parts of their school day. When the start and end of the school day includes pick-up and drop-off times, rather than the traditional bell-to-bell mentality, it is possible for policy makers and administrators to expand the influence that school services may be able to yield on students during the critical kindergarten year.

When considering how the school bus may be operating as a mechanism to influence attendance outcomes, the importance of routines cannot be overlooked. Routine-setting, metacognition of the value of routines and consistent practice and adherence to routines are important tools in helping children develop positive, well-adjusted habits (Bloomquist, 2006; Eisenberg et al., 2004; Fiese, 2006; Koome et al., 2012; Piscitello et al., 2019). Particularly for kindergarten students who may be attending school for the first time, or first time for a full day outside of the house, learning how to function successfully in a school setting requires understanding how routines work. This is especially true for many in the HI diagnoses group, in particular students on the autism spectrum and with developmental disabilities (Boyd, McCarty & Sethi, 2014; Korinek & deFur, 2016) routines may be an even more important tool to help them navigate their world. The school bus offers a very stable routine: same pick up time and location each day in the child's neighborhood, same drop off time and location at school, and in many districts, even the same bus driver each day. Utilizing the school bus removes variation in how students start their

day, and can help them be prepared and arrive to school in a familiar and comforting way. Shifting the perspective from the school bus as mainly a people mover to an extension of the daily school experience is a way for policymakers to leverage the school bus as a tool.

While the school bus provides a general opportunity as a routine-setting mechanism for both SWDs and GENs, it may also contain potential when considered as an intervention especially, given these findings, for students with HI disabilities. Typically, school transportation is only included as part of an IEP when the student's disability significantly impedes their ability to participate in general forms of transportation. Most often, this means an adaptation via a specialized transportation bus to accommodate a child using a wheelchair who would not otherwise be able to ride the general school bus, or similar situations. However, when policymakers start to consider the potential for the school bus to influence attendance outcomes, it is possible to view the school bus itself as an intervention to promote the desired behaviors, in this case increased attendance. While most school bus routes and services are designed primarily with boundaries and passenger demand in mind, it is worth exploring how the school bus experience can also be designed to intentionally prepare students for the school day on their commute, and to help them transition back home in the afternoon.

The importance of kindergarten and early education more broadly cannot be overstated. Absenteeism during kindergarten has long lasting impacts, both behaviorally and cognitively (Gottfried, 2014). Not only do students miss learning opportunities when absent but they are also developing undesirable attendance

habits that could be challenging to undo later. Attendance habits that are developed in kindergarten, either with or without the school's intervention, are likely to persist through a child's K-12 education career. Absenteeism in early education is also a compounded issue for SWDs. If SWDs are absent, they cannot receive the services needed. Furthermore, it could potentially delay the identification of said disabilities, thus increasing the achievement gap between SWDs and GENs.

Limitations

While this study continues to address the gap in the understanding of how the school bus operates as mechanism for attendance outcomes, we do identify several limitations on our analyses. Primarily, through the ECLS-K dataset we are only able to look at attendance outcomes as related to transportation mode for the child's kindergarten year. ECLS-K does not provide annual information for mode of transportation and therefore we cannot track longitudinal relationships as we are unsure of how transportation behaviors may or may not change from year to year. Obtaining national or state level longitudinal school transportation data would allow us to see how the school bus may be impacting attendance outcomes across K-12. It should be noted, however, that while this cohort from ECLS-K attended kindergarten in 2011, both the distribution of special education diagnoses and the general transportation trends have remained stable in the past decade (NCES, 2019; Snyder, deBre & Dillow, 2019).

Additionally, we do not have details about the child's experience on the school bus. Future research in this area can look at how the quality of the school bus ride shapes the relationship between transportation and attendance. Obtaining data,

such as from a single district, regarding how the school bus lines are structured, what stop the child gets on and off, where the stop is in relation to their home, if there are adult attendants other than the driver aboard, what time they board and disembark and how long they ride the bus would help provide a better understanding of how the school bus is functioning for these students and help policymakers know exactly which features of bus service they should focus on. Research at this level can also help provide a context for how the school bus can fit into existing school structures, such as by expanding PBIS domains to include the school bus ride in addition to typical locations on a school campus (the classroom, library, cafeteria, etc.).

Lastly, while a nationwide dataset such as ECLS-K is very useful, it is lacking in descriptions of experiences as told by the students and families who use and depend on the school buses across the U.S. every single day, as well as the details of running school transportation systems. A qualitative study, even at a single school, that seeks to describe and understand how and why families choose to use the school bus, and what the experience is like to ride the bus could give a much-needed human context to this service. Especially for groups like students with high-incidence diagnoses as presented here, it is important to understand how something that is currently applied in a mostly uniform way may be experienced differently by different groups of people. Additionally, gathering administrative data from school districts on what it costs them to run school bus service, decisions around routing and how the transportation system is designed would be useful next steps in researching this issue to provide cost estimates to policymakers.

Conclusion

We utilized the ECLS-K dataset to question assumptions about taking the bus to school and the impact it has for SWDs. This work allowed us to understand that time on the bus can be considered as an extension of the school day and therefore, worthy of analysis. Our regression models indicate that students with HI diagnoses (80% of SWDs) are associated with attending school more when they ride the bus. When considering the consequences of early education as well as the amount of resources that go into special education, these findings are noteworthy. Policymakers may utilize these findings to leverage the school bus as a means for improving the attendance of SWDs.

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STUDY 2: TO SIDER AF SAMME SAG: A COMPARATIVE STUDY OF TEACHER

EDUCATION PROGRAMS IN CALIFORNIA AND DENMARK

Countries around the world manage the task of training teachers in a myriad

of ways. While the motivations behind international comparisons and collaboration in

education are changing, there is a long history of nations looking to neighbors to

better understand their own school systems (Bray et al., 2016). There is value in

understanding what other nations are doing with their education system, as it allows

for better understanding of one's own system's strengths and expands your thinking

of possible solutions to its challenges.

This study is specifically looking at the teacher education systems in two

locations: California and Denmark. Teachers are an important part of an education

system, even with differing views on an education system's purpose. In a system

where education is a means for social & class mobility and economic growth,

teachers are responsible for imparting the skills and knowledge to succeed in society

and the workforce. In a humanistic view, teachers are responsible for promoting and

instilling values in their students: be they cultural, social, democratic or otherwise. In

either view, the way a country trains its teachers is tightly linked to the goals it has

for its children. Therefore, it is important to understand the context in which these

goals are shaped and how different systems might take different paths to get there.

Why California & Denmark?

California and Denmark certainly have many differences at first glance: 39.5

million people call California home making it the most populous state in the US. On

its own, the Golden State accounts for nearly 15% of the US GDP, or almost $3.3

trillion in the second quarter of 2021 (Bureau of Economic Analysis, 2021). The land that makes up California now is originally inhabited by over 40 groups & tribes of indigenous Americans (Castillo, n.d.), and after European occupation and colonization, parts of the state have been controlled by the Spanish empire, the Republic of Mexico, a very brief (25 days) independent California Republic, and now the modern day United States. Immigration trends from the past two centuries have resulted in an incredibly diverse population, albeit with significant inequities upheld by historical and modern policies. California's population demographics, geographical variation and humongous economy create a complicated backdrop for the state's public education system, and the associated training of its teachers.

Denmark in many ways seems the opposite. This nation of 5.8 million people is spread across a series of islands and a single peninsula of Europe. Located between the North and Baltic Seas, it serves as a connection between continental Europe to its south, and its Scandinavian neighbors to the north. Tracing back its origins to the Viking settlers in the region over 1,000 years ago, modern Denmark is a highly educated and wealthy society. After centuries as a powerful seafaring nation (with its own history of empire and colonialism), 21st century Denmark is a global leader, with some of the world's largest companies in industries such as shipping & logistics and wind energy (Forbes, 2021). The Danish education system is well-developed and respected internationally, and Danes generally look forward to a high standard of living, whether they remain in Denmark, move within the European Union or leave to live abroad.

When it comes to their education systems, and the way that teacher education is intertwined with this, I argue that California and Denmark have much more in common than a surface description might present and are uniquely suited to learn from each other. While both of these locations are shaped by individual circumstances, they are currently focused on two sides of the same coin when it comes to their education systems and the training of teachers. Here I will briefly outline the main structural components of each system.

California's Teacher Education System

Structure

California's teacher education system is overseen by the California Commission on Teacher Credentialing (commonly called CTC or CA CTC). This government agency is separate from the state's Department of Education (CDE). The CTC sets standards for TEPs and accredits and re-accredits programs at regular intervals. The CTC does not dictate where programs are or are not located in the state.

There are a variety of pathways to achieving a teaching license in the state of California. The most familiar can be thought of as "traditional" programs. That is, these TEPs are typically facilitated by a higher education institution, and teacher candidates (the students enrolled in TEPs) enroll in coursework typically taught at the institution's campus. Other elements of the TEP, such as student teaching fieldwork, take place in conjunction with local schools or districts, but are supervised by the TEP. These traditional pathway programs are typically set up as post-baccalaureate programs. Teacher candidates generally spend from 1 to 2 years (at full-time enrollment) to complete the requirements for their preliminary credential. In

California, a bachelor's degree is required before enrollment in the TEP, which is not the case in all other US states.

The California State University system (commonly referred to as the CSU or Cal State system) has 23 campuses that provide teacher education. The CSU trains nearly 47% of new teachers annually that achieve certification through traditional pathways (CTC, 2021). Private or independent institutions train the next largest portion of teachers at just over 46%, across 54 institutions (CTC, 2021). The University of California (UC) offers teacher education at 9 of its 10 main campuses (only UC San Francisco, a medical/health sciences university, does not offer teacher education), and this system trains 7% of new teachers that select a traditional pathway (CTC, 2021).

License Types

In California, a teaching license is technically referred to as a credential. Candidates typically select from one of three main credential types:

- The *multiple subjects credential* authorizes a teacher to work in all general subject areas from kindergarten through 8th grade, provided those subjects are taught in a contained environment. Typically this covers elementary school teachers.

- A *single subject credential* authorizes a teacher to work in one subject area in departmentalized classes (such as typical middle or high schools). The teacher candidate selects their subject during their TEP and options include English, Mathematics, Social Science, World Languages, multiple science disciplines and several other options.

- An *education specialist* credential authorizes a teacher to work with students with disabilities. Colloquially this may be referred to as "special education." All public schools in all 50 states and US territories are required to provide special education services as described by laws at the federal level. In California, a teacher candidate chooses an area of specialization, such as Mild/Moderate Disabilities or Deaf & Hard of Hearing, and the license allows them to teach in both general school settings as well as other types of locations (such as a home/hospital setting, for example).

Separately from credential type, candidates are also able to add-on a bilingual authorization to their credential, allowing them to work in bilingual settings. All candidates in California are required to have an English learner authorization as part of their credential, and this typically embedded into TEPs. Once a credential is issued, it is valid at any public school in the state, provided it is for a position covered by the credential.

Other Pathway Types

California also offers other pathways to becoming a licensed teacher. These will not be discussed in depth here, but it is important to know they exist. Generally, these are through some form of an intern program. In these situations, a school or district may hire someone without a teaching license to fill a vacancy that would otherwise go unfilled. People in these situations may be taking coursework concurrently with serving as the teacher of record. In some cases they may do this through an intern program provided by a university, but there are also options where local education agencies (LEAs) provide their own teacher training, or work in conjunction with an institute for higher education (IHE) to offer the necessary

coursework required by the CTC. Lastly, while not a pathway to full licensure, California also offers various types of permits and emergency licenses that are meant to be short-term to meet staffing needs. Due to these other pathway types, it is possible in California to have a teacher of record who is technically "underqualified" or "undertrained" as it relates to CTC requirements for a full credential.

Summary of System

Like all US states, education is largely the responsibility of the state. California uses a variety of institution types, both public and private, to meet this responsibility. The CTC does this through two main mechanisms: accreditation standards for programs and teacher performance expectation (TPE) standards for new teachers. With these two sets of regulations, CTC can determine if TEPs are meeting their obligations, and if new teachers are prepared to enter the classroom.

While the focus of this study is traditional pathway TEPs, it is important to note that the presence of alternative pathways is an important part of California's (and most of the US') teacher training system. Many of these alternative pathways are meant to serve staffing shortages, as teaching positions would otherwise go unfilled. There are many interacting factors to this to consider: general low supply of teachers compared to the need, or low numbers of teachers willing to work in specific subjects, locations or otherwise selecting out of available positions. Additionally, the wide variation in the types of programs and who they train also contributes to an uneven landscape of the practical applications of TEPs. All programs must be accredited by CTC, and therefore must be meeting the

accreditation requirements, but the ways in which programs can go about doing this can vary.

Denmark's Teacher Education System

Structure

Denmark's teacher education system consists of six *professionhøjskoler*, called University Colleges in English, that offer training to become a teacher. Each of these University Colleges roughly covers one area of Denmark: for example University College Copenhagen is the only professionhøjskoler in the capital city, while University College of Northern Denmark serves the northern part of the Jutland peninsula. The pathways to becoming a licensed teacher are far more limited in Denmark, even considering the difference in population size. These six institutions (often with multiple smaller sites throughout their respective regions) train nearly all of Denmark's teachers (Nusche, 2016).

Danish TEPs intertwine a teacher license with a bachelor's degree. Teacher candidates are enrolled in these 4-year programs and fulfill all requirements for licensure as well as for a bachelor's degree issued by the University College. This professionhøjskoler is separate from the university system: professionhøjskoler offer bachelor's degrees in mainly applied fields, like teaching and nursing, but do not currently offer master's or PhD level degrees.

License Types

Completing a Danish TEP provides licensure to teach in the country's *folkeskole* system. This is the set of compulsory education that covers ages 6 through 16 (and optionally through age 17), and in English is comparable to primary and lower secondary education (or elementary through the first two years of high

school for those familiar with the American system). A teaching license is not differentiated by age in this system, but by subject. Teacher candidates select the subjects they wish to specialize in. They must choose:

- One subject from the mandatory list: Danish, mathematics or English
- Up to two subjects from the list of minor subjects: sciences, social studies/religion, other foreign languages, physical education, among others. Special education is one of these optional subject authorizations.

While the Danish TEP system is regional, potential students are welcome to attend any institution they choose (provided they apply and are accepted). Furthermore, when a candidate successfully graduates and obtains their license, they can teach at any folkeskole in Denmark where they are hired.

The folkeskole encompasses compulsory education in Denmark, but there is an extensive system of upper secondary options mainly through the gymnasium network (largely meant to prepare students for tertiary education at universities or university colleges) and the vocational education system. Teachers in these systems are not trained by Denmark's university colleges and are not the focus of this study.

Summary of System

Denmark's education and teacher education systems are under the purview of the national Ministry of Education (in Danish: Børne- og Undervisningsministeriet). When there are changes to curriculum or policy, they generally occur at the national level, and then filter down to the TEPs, such as with the 2013 Executive Order 231 that restructured some components of teacher education (in Danish: Bekendtgørelse om uddannelsen til professionsbachelor som lærer i folkeskolen) (Retsinformation, 2013). Individual programs have control over their day-to-day operations and

teacher educators themselves are largely making pedagogical decisions, but the structure and content of a TEP is largely guided by national policy.

Two Sides of the Same Coin: To Sider af Samme Sag

While the two systems have stark differences in their structure, this study explores the similarities and dichotomy between the Californian and Danish teacher education systems. California's policymakers, educators and general public are demanding a more equitable education system, a societal shift that has been occurring for several years but has only become more noticeable after the Black Lives Matter protests that swept the US after George Floyd's May 2020 murder. While there are pockets of this work happening in TEPs in California, state-level change is often impeded by the fragmented nature of the system itself.

Meanwhile, Denmark has invested heavily in a centralized state that, even when factoring in Denmark's small population compared to California, is able to affect change across all TEPs and schools when necessary. Yet, Denmark is currently undergoing a demographic shift, largely driven by several decades of immigration and refugee resettlement, and now moving into 2nd and 3rd generation Danes with non-European backgrounds. A long tradition of an education system that intertwines schooling with instruction on a specific interpretation of what it means to be Danish is clashing with the reality of who is present in classrooms across Denmark today. However, Danish schools and teacher education programs have up to this point largely emphasized policies of assimilation for non-ethnic Danes, intensifying societal discord and strife in a nation that prides itself on its democratic institutions and egalitarian structure (Jaffe-Walter, 2020).

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We can learn from each other's trajectories as both systems grapple with change. By working firsthand with people involved in teacher education in California and Denmark, I aim to examine the role teacher education plays in the larger conversation around the purpose of education in a modern, multicultural democracy.

Research Questions

With this context in mind, this study aims to better understand the way that teacher education programs (TEPs) are structured, and what specific program features are present in two specific teacher education contexts: California and Denmark. This study asks the following research questions:

- What experiences do candidates and instructors have in their TEP that relate to program structure and cohesion?

- What experiences do candidates and instructors have in their TEP that relate to a broader sense of social responsibility? That is, how is the teacher education program related to promoting or influencing societal values?

- What experiences do candidates and instructors have in their TEP that relate to preparing teachers to use culturally sustaining pedagogies in their future classrooms?

Defining Teacher Education

Teacher education refers to the broad system of training, licensing and preparing teachers to work in public school classrooms. In the US, teacher education is handled by each individual state, with most states handling certification and accreditation at the state level, with individual TEPs responsible for enrolling

and training teachers. This study looks at TEPs in California and Denmark and, through a series of structured interviews with teacher candidates and educators, aims to understand the presence of three specific program features: program structure, social cohesion and use of culturally sustaining pedagogies. First, this study will give context to the current issues of teacher education occurring in both places, then describe the current state of research in teacher education before describing the specific program features of interest for this study and the methodology for inquiring about them.

Current Issues in California

The scale of California's public school system rivals that of many independent countries. With over 6 million students enrolled in its over 1,000 public districts (California Department of Education, 2021), California has a vested interest in ensuring that the teacher education pipeline is preparing a teaching workforce to work with a wide range of students across the state's many diverse communities. Even though California's public schools employed over 300,000 teachers in the 2018-19 school year, the current teacher shortage is projected to worsen, especially in high-needs subject areas such as special education and STEM fields, which echoes a national pattern (Billingsly & Bettini, 2019; Learning Policy Institute, 2020; Sutcher, Darling-Hammond & Carver-Thomas, 2016). In response, districts may end up hiring undertrained teachers (as mentioned previously, these are teachers without a credential that matches the assignment, are currently enrolled as an intern in a TEP, or have a short-term permit). Oftentimes these teachers end up working with the highest needs students in the highest needs subject areas (LPI, 2016).

Furthermore, California's teaching workforce does not adequately reflect its student body. In California, the teacher workforce is largely composed of white teachers, while the majority of students belong to marginalized groups, with Hispanic & Latino students comprising 54% of public school students in 2019-20 (CDE, 2021). Creating a more socially just public education system is a priority for both the California Commission on Teacher Credentialing (CTC) and the California Department of Education (CDE), and increasing the recruitment and retention of teachers of color is one strategy to do this. TEPs are a critical component of this system as they shape the future of the teaching workforce in the state.

Current Issues in Denmark

In the US, Nordic countries (typically defined as Denmark, Finland, Iceland, Norway and Sweden) are often held up as examples of highly successful public education systems in high-wealth Western democracies, and for good reasons. These countries boast low levels of income inequality, strong social safety nets and public institutions and school systems that consistently perform well in international measures (such as PISA). They have highly advanced knowledge economies and school systems that support a highly educated workforce. However, these countries are facing many of the same challenges as other industrialized nations and are taking different approaches to face them.

One of the major changes happening across the Nordic countries, and more broadly across the European continent, is an increase in immigration, especially from refugees and asylum seekers. The most recent immigration crisis peaked in 2015 when large numbers of people sought asylum in the European Union (EU),

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fleeing instability in their home countries, especially from the Middle East. This influx of newcomers has caused concern from many European governments and citizens, and has sparked ongoing debate as to how the EU will handle this increased immigration both as a single bloc, and as individual member states Barlai et al., 2017).

As new immigrants enter a country, it inevitably changes some features of society. Schools are one place in which this change is felt first and most publicly. Children who enter as immigrants themselves or are born to immigrant parents can struggle as they navigate two cultures: that of their household, and the adopted culture of their new country. A country's school system can greatly influence the degree of this struggle for children depending on how it chooses to respond.

Denmark has received a large number of immigrants in recent years, both via asylum/refugee channels and through more traditional means of immigration. Turkey, Syria, Iraq and Lebanon are the largest home countries of immigrants coming to Denmark from outside the EU (Statistics Denmark, 2021), and this most recent wave of immigration has caused a wide range of reactions from Danish citizens, media and policymakers (Jaffe-Walter, 2020). Arguably, these responses are similar to what the US has experienced in recent decades, including increases in xenophobia, hardline immigration policies and a general rightward, nationalist shift in public discourse.

At the same time, Denmark's schools must adapt to the student population that is present. This means that TEPs in Denmark are also adjusting to this most recent immigration pattern as well. This context of a largely Western-oriented

education system that is now working with a growing student population that is not ethnically homogenous is comparable to the US. Thus, this study seeks to understand how the Danish context for teacher education is in some ways similar to California, and in other ways quite different, and how we might learn from each other in service of our students.

Three Areas of Interest

The above research questions identify three areas of interest in this study: program structure, social responsibility and culturally sustaining pedagogies. In this section, I will describe each of the terms and why it is a focus of the interview protocol.

Program Structure

The term "program structure" refers to the way a teacher candidate experiences their entire teacher training as a single experience. This can generally refer to the order of coursework, the way teacher educators collaborate with each other, and the way field placements are intertwined with the day-to-day operations of the TEP. Program structure can encompass the design and format, as well as the themes or skills emphasized. Given the broad set of skills that are required of teachers, the way a TEP is structured is an important component in the preparation process. Research from Darling-Hammond's team has shown that a TEP's structure lends itself to a stronger sense of connection and coherence across concepts and practices, both for TEP faculty/instructors and for teacher candidates (Darling-Hammond et al., 2005). Darling-Hammond also showed that specific teacher

education program structures were related to more confident and effective first-year teachers (Darling-Hammond, 2012).

Unsurprisingly, program structure in teacher education varies greatly from country to country as many nations have a rich history of how they arrived at their current models. For countries like the US, with a devolved federal system, the political structure of education means that there is even great variation within the country when it comes to teacher education. In a country like Denmark, there was a great influence by larger neighbors (Germany) in the development of the school system. No matter the place, it is quite common that a country's current teacher education system is largely influenced by its origins, and that the teacher education system developed before rigorous research on concepts like program structure existed (Craig, 2016). Program structure is included in this study due to its pervasiveness in the experiences of both faculty/instructors and teacher candidates, as well as for being a potential area to target with policy interventions.

Social Responsibility

The second term, social responsibility, refers to the broader purpose and goals of teacher education. The way teacher education, and schooling more broadly, serve a purpose in society influence the way teacher educators and teacher candidates develop their understanding of their roles. This understanding of the purpose of teacher education has a reciprocal relationship with larger cultural values: if schools are seen as institutions to promote a cultural identity, democratic values, national allegiance or strong competitors in the workplace, then schools and TEPs may operationalize these values within their members (Green, Preston &

Janmaat, 2006). Conversely, if schools' primary purpose is to prepare students for economic productivity, teachers and teacher education will primarily be geared toward achievement of the skills seen as necessary for these outcomes.

The modern incarnation of school serves many things to many people. In a US context, the ideas of thinkers like John Dewey are still widely discussed in TEPs and education circles. Yet, this focus on democracy and the way education influences individuals to function as citizens may not be readily apparent in a system where the focus of the last two decades has largely been on the measurement of academic achievement and accountability. In Denmark, conversations around the purpose of schooling are largely influenced by concepts like *bildung* or *dannelse*, which are ideas tracing their roots from German philosophy, or by thinkers such as contemporary Dutch researcher Gert Biesta and the ideas of education as a way to achieve self-actualization in service of broader society. Yet, Denmark is also not immune to the pressures of accountability and international comparison, as evidenced by a swift reaction within the country to improve its performance on PISA (Dolin et al., 2010).

While the concept of social responsibility is broad, it is an important component to include in a comparative education study. While school is largely identifiable and familiar no matter where in the world you are, the deeper social motivations behind it matter, as systems are set up to reproduce themselves. As described in the introduction, the larger conversation happening in teacher education in California can be framed as a desire to disrupt the current system, whereas in Denmark the conversation may be viewed as asking if the system needs to be

disrupted. Understanding the motivations behind why individuals are participating in teacher education is an important prerequisite in learning from another system: if the goal is to apply some change to our own system, we need to understand the intent of our inspiration.

Culturally Sustaining Pedagogies

The third term, culturally sustaining pedagogies, refers to teaching practices that promote multicultural understandings of students' strengths, and seek to include multiple linguistic, ethnic and cultural backgrounds as equal components in schools (Paris & Alim, 2017). Culturally sustaining pedagogies seek to be direct responses against the practices that center whiteness and past legacies of colonialism present in many Western schools. In California, and across the US, many educators are actively discussing how to incorporate culturally sustaining pedagogies into daily practice.

This approach to pedagogy has its roots in the work of Gloria Ladson-Billings' introduction of culturally relevant pedagogy from the early 1990s. Ladson-Billings describes the importance of leveraging a child's own experiences and background as a way to help them connect with the curriculum (Ladson-Billings, 1995). Culturally relevant pedagogy also implies that what is being taught should have meaning and value to the students who are in the room, exemplified in phrases from Ladson-Billings such as "We teach what we value," (Paris & Alim, 2017). Culturally sustaining pedagogy builds on these ideas and takes the next step of affirming that not only should education be relevant to the students in the room, but that our schools should also actively work to include their experiences not to connect with a

mainstream idea of what is valuable, but rather to sustain students' experiences so that multiple cultures and communities can thrive.

Culturally sustaining pedagogies is at the forefront of many educators' minds in a California context. I bring it up in this comparative study due to the rapidly changing demographics in Denmark as well. American schooling was built upon the idea of elevating one cultural understanding as being superior, and minoritized groups were subjugated through our system's design. Each phase of education history has been in relation to this original story: from desegregation and integrated schooling movements to tribal schools to modern discussions around the achievement gap.

While Denmark has its own history of racial aggression (slavery was outlawed in Danish colonies in 1848 (National Museum of Denmark, n.d.)), as well as a continued complicated relationship with its former colony of Greenland, the school system in Denmark proper (the peninsula and islands situated directly in Europe) largely consisted of ethnic Danes until the 1970s. As a result, Denmark has the opportunity to learn from others, such as the US, when it comes to pursuing a genuinely multicultural democracy in ways that previous nations could not while still applying these comparisons in ways that make sense for a Danish context. These three areas of interest are very broad and abstract concepts, however each of them plays an important and interdependent role in understanding the way teacher education is done in each location. I am seeking to better understand them by working directly with people who participate in the teacher education system on a regular basis. In the current context of both US and Danish schooling, these ideas

seem to be very salient and necessary to better understand how they may be impacting the preparation of teachers.

Data & Methods

In order to understand the way TEPs in California and Denmark interact with the three identified concepts of program structure, social responsibility and culturally sustaining pedagogies, this study consists of interviews with stakeholders in TEPs in both Denmark and California. In total, 14 interviews were conducted with teacher candidates at different stages of their program, teacher educators (who directly work with or instruct teacher candidates) as well as TEP administrators who in addition to working with teacher candidates also have program-level responsibilities in their TEP. Eight of these interviews were with participants spread across two TEPs in Denmark, and six were with participants from a single TEP in California. A fuller description of participants is provided in Table 1.

Interview Construction

The interview protocol consists of three modules (see Appendix 1). Each module covers a specific area of interest: program structure, social responsibility and culturally sustaining pedagogies. This interview protocol is constructed using a tree and branch method (Rubin & Rubin, 2005), where I have outlined the main ideas in the questions I would like to learn more about, but during the actual interview, the participant is able to steer the conversation and the interviewer asks follow-up questions in the moment as necessary to better understand their perspective and how it relates to the module at hand. The goal is to gain insight and trust with the interviewee, and details are encouraged.

Examples of the guiding questions include: "How did you come to enroll in this teacher education program?", "Tell me about a time when you worked as part of a team in your TEP," and "What has your program taught you so far about working with students with a different language background than English (or Danish)?" Each of these questions aligns with one of areas of interest, program structure, social responsibility and culturally sustaining pedagogies, respectively. These sample questions are from the interview protocol used with teacher candidates, but may be slightly adjusted depending on the interviewee's role (for example, asking "How did you come to work at this TEP?" as a replacement for teacher educators).

Participants were recruited through flyers and email recruitment at the Danish and Californian TEPs. Due to the recruitment and interview phase taking place during COVID-19 restrictions both in Denmark and the US, participants scheduled a 60 minute interview time to occur over Zoom. Participants received an informed consent form detailing how their data will be used, stored and shared and, for EU participants, their rights under GDPR legislation. Participants were assigned a random ID number and their personal identifying information is not tied to their responses. The initial interview was audio recorded, and then an automated transcription service was used to get the initial transcript draft. I then re-listened to the recording to finalize the transcription. Once the transcription was finalized, the audio files were deleted to protect participants' privacy and to comply with European regulations.

It is important to note the context with which these interviews took place. As previously mentioned, the interviews occurred over Zoom due to COVID-19

restrictions in place at the time (Winter & Spring of 2021). At the time, all participants were also largely participating in their TEPs remotely: all coursework for teacher candidates was online in both Denmark and California, and the California participants were also doing their student placement fieldwork online, while Danish teacher candidates were slowly returning to in-person instruction in the local Folkeskoler. This study when originally designed was not intended to measure experiences in TEPs during a global pandemic, but that is the backdrop of this particular moment in time. For the Californian participants, the US had also recently come off a summer of intense nationwide protests over police brutality and systemic racism, sparked by George Floyd's murder in May 2020 in Minnesota. Again, this context is important to note as Americans were not very far removed from these events at the time of these interviews.

Description of TEPs

The California participants all came from a TEP situated in a public research university, which will be referred to as Public University TEP. This TEP has a structure similar to traditional programs in California: teacher candidates enter the program after they have already obtained a bachelor's degree, and over the course of approximately 12 months they earn a preliminary teaching credential in their desired credential area. Public University's TEP trains approximately 100 new teachers each year, a relatively small number compared to many other institutions in California, however Public University's TEP is one of only a handful of TEPs in the immediate region. Public University is in a middle-sized California city, approximately 1 hour by car from the nearest major metropolitan area.

The Danish participants came from two TEPs and one university in Denmark. The TEPs will be referred to as By TEP and Cimbric TEP. Both are typical of Danish TEPs: they are located within a professionhøjskole and teacher candidates complete their entire post-secondary education in the program over the course of four years. The single participant not placed at a TEP is an instructor with a master's level program at By University. Due to the structure of Danish institutions, the research university and TEPs are separated, but this participant overlaps in teaching responsibility with teacher education. The main campuses of By and Cimbric are located in Danish cities, but both offer education at satellite campuses meant to serve the greater geographic region.

Table 1

Overview of Interview Participants

Participant ID	Nationality	Program Location	Role
1	Danish	By TEP	3rd Year Candidate
2	Danish	By TEP	1st Year Candidate
3	Danish	By TEP	4th Year Candidate
4	Danish	By TEP	Instructor
5	Danish	By TEP	Instructor
6	Danish	By University	Program Coordinator
7	Danish	Cimbric TEP	Program Coordinator
8	Danish	Cimbric TEP	Instructor
9	Californian	Public University TEP	Instructor
10	Californian	Public University TEP	Instructor
11	Californian	Public University TEP	Instructor
12	Californian	Public University TEP	Teacher Candidate
13	Californian	Public University TEP	Teacher Candidate
14	Californian	Public University TEP	Instructor/Program Leadership

All interviews, even with Danish participants, were conducted in English. While the primary language of Denmark in both business and school settings is Danish, English fluency as a whole is quite high, and all participants indicated their comfort and agreement in conducting the interview in English. The informed consent forms and other documentation about the study and their participation were available in English and Danish to ensure participants had the information available in their preferred language.

Content Analysis of Interviews

To understand the way interview participants experience the three focus concepts, program structure, social responsibility and culturally sustaining pedagogies, in their respective TEP, I employed a qualitative content analysis of the interview transcripts.

Qualitative content analysis is a term that refers to the systematic analysis of qualitative artifacts, in this case the transcripts of interviews, and aims to identify and categorize the prevalence of themes (Schreier, 2012). The goal is to create a database or corpus of individual segments of meaning that can then be analyzed and sorted using other quantitative methods. This method of analysis allows for me to engage with my interviews to participate in some degree of interpretation. While I am entering this analysis with some idea of the general themes I am searching for (program structure, social responsibility and culturally sustaining pedagogies), qualitative content analysis allows me to adapt these structures based on the responses from participants, since they are the people actually engaged in teacher education.

Results

In starting this analysis, I predefined a starting set of categories. These starting categories are the three areas of interest. Within those categories, I then predefined three degrees of the presence of that concept. The definitions for each are shown in Table 2.

Table 2

Interview Coding Categories

Subcategory	Description
High Social Responsibility View of Schooling	Program empahsizes school system as an important mechanism to shaping other parts of society and has clear implications for how teachers are part of this.
Medium Social Responsibility View of Schooling	Program discusses the role of schooling in greater society, but does not have a cohesive way of preparing teachers for how they will act upon this.
Low Social Responsibility View of Schooling	Program either does not discuss the way schooling is connected to other parts of society, or only superfically mentions it. There is no preparation around how teachers can influence this.
High Integration of CSP	CSP/CRP are integrated across most areas of the TEP, and instructors have a shared view and understanding of how these practices are relevant to candidates, regardless of discipline/specialization.
Medium Integration of CSP	CSP/CRP are discussed regularly in multiple areas of the program. They are incorporated in some instructional areas, but not across all. Candidates likely see the importance of CSP/CRP, but may struggle to integrate across disciplines or situations
Low Integration of CSP	CSP/CRP are discussed in a standalone fashion, or indirectly through other topics (such as bilingual education). While individual instructors may promote exposure to CSP/CRP, the program is not actively working towards an overall strategy.
Tight Program Structure	Overall program is designed to be purposefully experienced in a particular order, with classes occuring in a specific sequence. There is collaboration between instructors and candidates.
Medium Program Structure	Program has some features of organized mission, sequence and vision. There are some areas of the program that are disconnected from the main program.
Loose Program Structure	Program does not have a rigid structure. Candidates can complete components in their own order. Program requirements function more as a checklist and individual candidates are in control of their participation.

After completing the transcriptions of the interviews, I segmented the
interviews into individual units of meaning and categorized them according to the

definitions in Table 2. The segments may consist of individual words, phrases, full sentences or even multiple sentences. This step is important because each individual segment is the unit of analysis that conveys meaning, but is also where the interpretation must take place. Using the above rubric as a guide, I identified segments of unique meaning, and then chose a category in which to place them.

For example, in one interview, I segmented the sentence, "if there's a problem they talk about it and they discuss it and then they try to problem solve" from its transcript where an instructor was describing how their TEP staff work together. Referencing the rubric, I classified this as *Tight Program Structure* because it showed evidence of collaboration across instructors, mainly through the active verbs of "talk," "discuss" and "problem solve."

In another example, a Danish participant said, "I definitely think that people who are born and raised in Denmark have like a responsibility to include everyone, even though they don't speak Danish, but I think it's it will be much easier for you to be a big part of the society if you speak Danish, because it's like, I think you're at risk of being like a bit isolated if you don't speak the language and it's easier for you to get a job if you if you speak Danish." For this segment, I included the first part of thought where the participant describes the responsibility of native Danish-speakers because it seems important in understanding their thinking of the next part of the quote. Still, I categorized this as *Low Integration of CSP* since the idea is more closely related to the participant's understanding of bilingualism, an underlying understanding of the role the dominant language (Danish) plays in society and school's role to support that dominance.

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In total, I coded 216 segmented units from the 14 interviews. The results of the segmentation are summarized in Table 3 below.

Table 3

Overview of Interview Segmentation Results

Category	Denmark	California
Summary		
Program Structure	41	44
Social Responsibility	34	14
Culturally Sustaining Pedagogies	48	35
Program Structure Detail		
Loosely Structured Program	7	6
Medium Structured Program	13	5
Tightly Structured Program	21	33
Social Responsibility Detail		
Low Social Responsibility View	4	6
Medium Social Responsibility View	13	5
High Social Responsibility View	14	4
Culturally Sustaining Pedagogies Detail		
Low Integration with CSP	33	9
Medium Integration with CSP	15	24
High Integration with CSP	0	2

In Table 3, the frequency for each category of segmentation is shown, first by overall sorting into the three focus concepts: program structure, social responsibility and culturally sustaining pedagogies. This number can be interpreted to mean the number of times a participant brought up an idea, example or statement related to the focus concepts. In the remaining part of the table, I have broken down each

focus concept into its 3 rating areas, generally consistent with a low, medium, high

scale. Column 1 shows the counts from the Danish interviews, while column 2

shows counts from the Californian interviews. At this overview, there is a clear

difference in at least the frequency of the concepts during the interviews. I will now

describe the results for each focus concept in more detail.

Program Structure Results

In this category, there was a strong similarity between the Danish and

Californian participants. Across Danish interviews, the concept was discussed 41

times, while Californians discussed it 44 times. At the coding stage, there were also

general similarities between both groups. Table 4 shows a further breakdown by

nationality and role in the TEP.

Table 4

Segmentation Results for Program Structure by Respondent Role

	Loosely Structured Program	Medium Program Structure	Tightly Structured Program
Danish Students	4	2	8
California Students	1	2	8
Danish Instructors/Coordinators	3	11	13
California Instructors/Coordinators	5	3	25

From Table 4, it is clear that instructors and coordinators discussed program

structure more often in the interviews. Furthermore, most comments about program

structure across all groups represented a tightly structured program, with elements

representing a thoughtful sequencing of programs, coordination between instructors,

students, staff and field placements. Throughout the interviews, I heard from most

participants that they thought their respective programs were overall well-structured, designed with the teacher candidate in mind, and that the skills required of a teacher were developed in a cohesive and thoughtful manner. Instructors and coordinators described having autonomy over their individual coursework or responsibilities, but also feeling like they were part of a team and were supported by their program. These themes were present in both Danish and Californian interviews, and students also brought up these themes, which is particularly interesting given that they were participating in an academic year that had large portions of online-only instruction due to the COVID-19 pandemic in programs that were designed to be in-person.

The most often mentioned type of comments in this area were related to the opportunities for collaboration and the sequencing of the program itself. However, participants also brought up many other topics when discussing program structure including: program design, program goals, processes for affecting change within the program and standardization across the program. Generally, the identification of medium- and tightly-structured program characteristics were seen as strengths. For example, one instructor in Public University's TEP emphasized that the sense of collaboration and teamwork with others in the TEP was a main reason for their continued employment in the program, saying, "The main thing is just that it's been a joy. It's been an honor to be able to serve with [TEP staff and faculty] … it's literally impacted my decision … to stay on." A Danish instructor credited the program's organization as being successful in "[changing] how [candidates] think of teaching" over the course of their 4 years.

The tendency for tightly-structured programs was discussed in a negative connotation when it came to external pressures on the TEP. Some participants brought up adherence to government regulation as being a burdensome motivator for some of the program structure, such as making sure they were meeting license requirements set forth by the respective agency. Some teacher candidates also mentioned this in questioning the value of some of the topics they spent time studying during their programs, but assuming some of the program design was meant to satisfy regulatory requirements. For example, California candidates mentioned some time being devoted to preparation for the teacher performance assessment required by CTC in order to receive a preliminary credential at the end of the program.

Two participants who are instructors at Public University's TEP in California had previous experience in other TEPs in both California and other US states. Both of these participants independently brought up Public University's particular emphasis on maintaining a tightly-structured program. One participant described using their experience in other TEPs as benchmarks for how intensely focused on program uniformity and a shared vision Public University is. Both participants were relatively recent arrivals to the institution (within the past 5 years) and cited their respect and enthusiasm for working in a program that was constantly self-evaluating and working to implement improvements. Additionally, I interviewed two instructors at Public University who had been with the institution for an extended period of time (each over 15 years). These two participants seemed to hold an institutional memory for Public University's TEP, and described the current state of the program structure

as an evolution over where it had been in the past. This pattern was also present in the Danish interviews: one instructor who had been with By TEP for nearly two decades described the institution's current structure as it related to the past and how things arrived at the current state. Meanwhile, newer instructors were more apt to describe both By TEP and Cimbric TEP as it related to the institution's ability to incorporate them as new team members.

Social Responsibility Results

The concept of social responsibility came up much more frequently in interviews with Danes than it did with Californians: Danes mentioned it more than twice as often. When looking at the detailed breakdown of this category, it is clear that Danes are more often describing medium and high examples of social responsibility views (87% of social responsibility mentions) in their TEPs than Californians (60% of social responsibility mentions). Table 5 shows a further breakdown of responses in this category by role and nationality.

Table 5

Segmentation Results for Social Responsibility by Respondent Role

	Low Social Responsibility View of Schooling	Medium Social Responsibility View of Schooling	High Social Responsibility View of Schooling
Danish Students	0	6	5
California Students	0	1	0
Danish Instructors/Coordinators	4	10	9
California Instructors/Coordinators	6	3	4

This was clear throughout my interviews with Danes. When asked about how they viewed the role of schools in broader society, many Danes directly brought up

the issues of instilling democratic values and serving as a place for different classes and ethnicities to interact with each other. These ideas were brought up by both TEP instructors and candidates. Specifically, the idea of "bildung" repeatedly came up in interviews with Danish instructors. While this idea will be discussed further later, it can be briefly described as a tradition of education where an important purpose of school is to help individuals develop to their full potential, not just academically, but also morally, emotionally and socially, so that they may be successful members of the larger society. Bildung has its roots in German education traditions (Westbury et al., 2012), but the Danes maintain a version of this, commonly referred to as dannelse in Danish. This existing framework seemed to encapsulate many of the responses in this category. Other segments that I coded as high evidence of social responsibility from Danes included participants discussing Denmark's long tradition of welfare education, pedagogical viewpoints in Scandinavian countries that value learning as an individual pursuit that serves the common good, and the importance of concepts like *samlingskraft*, or social cohesiveness, in public education. I coded this type of response as *High Social Responsibility View of Schooling* not only because participants mentioned them, but largely because they described situations, evidence and frameworks that operationalized them in the teacher education program.

In the Californian interviews, candidates tended to describe the social responsibility of their own role as a future teacher, mainly describing their desire to be a role model or trusted adult for their students. Californian instructors described a high level of social responsibility on the part of teachers, but also described instilling

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this into candidates as a challenge of teacher education. One instructor at Public University's TEP said, "I put this in the category of a challenge… when people come to a teacher ed program for a credential, I don't think they expect to be asked to question the foundations of schooling." Overall, Californians expressed an individual-level understanding of the social responsibility of teaching and schools in American society, but seemed hesitant or unsure of the way their TEP was promoting, challenging or directly related to this (depending on their role). Conversely, Danes seemed acutely aware of the responsibility and established role that schooling plays in Danish society, although there was less of a connection between this category and the next (culturally sustaining pedagogies).

Culturally Sustaining Pedagogies Results

In this concept area, both Danes and Californians discussed this fairly frequently. These discussions were largely initiated by my interview questions related to how the TEP prepares candidates to work with students from a language background other than Danish or English, and how the TEP prepares candidates to work with students from minoritized cultural backgrounds. I rarely directly used the term culturally sustaining pedagogies, this was intentional as I did not want to direct the conversation. In my preparation work with Danish education researchers, they also advised me that this term would be unfamiliar to most Danes. I still categorized segments in this area based on my definition of how the comment represented an integration of CSP principles within the TEP. Table 6 shows the results broken down by interview group.

Table 6

Segmentation Results for Culturally Sustaining Pedagogies by Respondent Role

	Low Integration of CSP	Medium Integration of CSP	High Integration of CSP
Danish Students	14	6	0
California Students	6	11	0
Danish Instructors/Coordinators	19	9	2
California Instructors/Coordinators	3	13	0

In this section of the interviews, Danes mentioned many instances of being exposed to ideas around how to best promote Danish language skills in their students. However, each candidate also mentioned that they did not see many examples of these practices used in their placements as there were very few students with a non-Danish language background in their immediate fieldwork. The Danish instructors I spoke with echoed similar approaches to addressing bilingual development in their coursework. When it came to the idea of how different cultural backgrounds should be incorporated into the classroom, many of the Danish participants discussed the importance of connecting with a student's culture, and how this could be an important way to facilitate a deeper connection with both Danish language and Danish culture. One candidate phrased it in a way that was relevant in many of the interviews: "But I think also most of the people I know who chose to be a teacher also [did so] because of these challenges and to integrate [students from non-Danish backgrounds] in Danish society. I think that's a huge role that the teachers have."

This view was not shared by all the Danish participants. Two instructors in particular focus on the area of multiculturalism and bilingualism in Danish schools. One instructor was acutely aware of the ideas in culturally sustaining pedagogies, but described how these ideas had not yet worked their way into Danish education in the same way they have in many places in the US. They said, "my point is that we are very far away from changing ... our own unconscious behaviors, [or] ways of behaving towards specific minorities." Another instructor, when describing the inability of the Black Lives Matter movement to gain the same national traction in Denmark that it has in the US, said "So it just came around us as like really non Danish."

In a final example of this, an instructor who works in a field called *Kristendom, livsfilosofi og medborgerskab* (commonly abbreviated as KLM) also expressed that some of the American ways of describing culturally sustaining pedagogies, multiculturalism, race and ethnicity do not directly translate into a Danish context. The KLM course is a required part of Danish TEPs, and while the name translates to "Christianity, philosophy of life and citizenship" it can be thought of as a combination of world religions, morality and ethics. Despite having "Christianity" in the name, the course is less about specific aspects of Christian tradition, and more about how morality and ethics have been constructed in a Danish context, how this relates to education, and how this compares with other approaches around the world. This instructor described that while Denmark has historically considered itself to be global and multicultural, the current scenario of many people immigrating to Denmark is a new development, and is causing friction in popular discourse, and the education

system is also trying to understand its role in the current Denmark. This instructor

stated, "When you don't have a lot of people coming to Denmark, then it's a pretty

easy approach to have … but when [immigration] begins and … people do not adjust

as we thought they would do, then the cultural norms get mixed up."

In the Californian interviews, there was a much more direct awareness of

culturally sustaining pedagogies, and much of the conversation was around how to

incorporate them genuinely and effectively into TEPs. Both candidates from Public

University explicitly stated that they wished Public University TEP would more

actively incorporate anti-racist teachings across the program, and acknowledged

that while they could see efforts being made, they hoped for it to be more expansive

and supportive. It is worth noting again the timing and context of these interviews.

While anti-racism has been discussed with more regularity in education circles in the

past few years, there is an increased sense of urgency and need for action

especially since the 2020 BLM Protests. Furthermore, the COVID pandemic itself

required a quick response from teacher education: both from policymakers and

administrators, and from TEPs themselves. These two external factors have resulted

in rapid changes in teacher education which was previously not the norm. While this

was not the intended timeframe of this study, it is overlapping with these interviews.

Both California candidates also described a disconnect between the way

Public University TEP talked about race, ethnicity, language and culturally sustaining

pedagogies and what they were seeing in their fieldwork placements, especially as it

related to structural racism that they witnessed, such as unintentional segregation by

race between advanced courses and general curriculum classes.

The Californian instructors acknowledged the same ideas. Throughout all the interviews, participants described a desire and an urgency in preparing candidates to both effectively work with students from minoritized backgrounds and to have the skills to dismantle the unjust systems they might find themselves in, but struggled with how to best do that and if Public University TEP was meeting that charge. One Public University instructor described the situation like this: "I think that in general, people see [our approach to] race and equity as a concern and that they don't feel that the program is doing a good enough job now to prepare candidates and they are very anxious to try to fix that problem and go deeper." None of the California participants described the push to focus on culturally sustaining pedagogies as unnecessary or unwarranted.

Discussion

This study seeks to better understand the presence of three focus concepts in TEPs: program structure, social responsibility and culturally sustaining pedagogies, as experienced by candidates and instructors in these programs. By interviewing participants from two different national contexts, one TEP in California and two in Denmark, I can identify bright spots of practice in each place and identify how each location can learn from the other.

When first considering the concept of program structure, it was clear from the interviews that this was a strength from all three represented TEPs. The perception from relative newcomers to the programs, whether they were students or instructors, showed that they felt there was a clear vision to their programs, they generally understood why things were structured a certain way, and that there were

mechanisms in place to facilitate this program structure, such as regular check-ins with mentors/supervisors, team meetings for instructors in the same discipline, and larger program-wide mechanisms to sustain the program's structure. Given the general structure of TEPs in Denmark (spanning four years and encompassing a candidate's entire undergraduate career), this is unsurprising. However, Public University's TEP in California is somewhat unique in this regard compared to other TEPs in California. In California programs, it is not uncommon to have a much looser structure where candidates may attend part-time, and take classes in different orders depending on their availability. While not the standalone focus of this study, the similarities between the degree of program structure between all participants does help to better understand results around the remaining two focus concepts.

The main takeaway from the interview discussions around the concept of social responsibility is that Danish TEPs have a much more developed and common understanding of the role schools play in Denmark's social structure, and therefore how teacher education fits into this. Danes repeatedly articulated directly that schools play an important institutional role in Denmark and are specifically (partly) responsible for encouraging trust and participation in Denmark's democracy. The history and origin of the importance of Danish social trust and responsibility would be impossible to discuss in its entirety here, but the takeaways from participants highlighted three aspects: trust in Denmark's institutions, a clear vision of what it means to be Danish, and a clear understanding of how school fits in with Danish life. From the sample of Danes I interviewed, in the midst of the COVID-19 pandemic and a strict nationwide lockdown, they expressed overall a sense of trust in their

country's main institutions including schooling. I interpreted this as something that was not developed entirely by the TEP, but rather something that the Danes experienced throughout multiple aspects of their lives. Therefore, it seemed like the purpose of school was already more readily defined and understood by everyone involved. And while nearly everyone I interviewed with in the Danish education system had ideas for what could be improved or changed, there was also a consensus that the mechanisms for change were achievable through participation in the system.

From the Californian interviews, I saw a much more muddled understanding of the social responsibility of schools. The interviewees I spoke with clearly articulated that the current system of schooling in America is not serving everyone and that teacher education plays some part in both sustaining and changing that system. However, there was not a cohesive vision of how the TEP was part of the logic of change beyond the scope of individual instructors interacting with their cohort of students. I repeatedly heard Californian participants express that this was something they felt TEP was grappling with, but had not quite figured out.

The meaning of social responsibility in an American context was also being upended in ways that were unfamiliar to many of us at the time of this study. I began my interviews just a few weeks after the insurrection at the US Capitol, and each of my participants were entirely online in their roles as the pandemic and the extremely localized and politicized US response continued to drag on without getting a firm hold of the virus. I was asking American educators about the role of social responsibility in our school system during a period of time when the role of social

responsibility is being debated across all aspects of our society in real time. And I was asking how one TEP could address this.

This brings the final concept to the discussion: how TEPs can prepare teacher candidates in working with a diverse group of students using tools like culturally sustaining pedagogies. This concept seemed very familiar to the participants from Public University TEP in California. And while there was not a sense that culturally sustaining pedagogies are currently tightly integrated across the program, there was a sense from candidates and instructors that the TEP is actively reassessing and working to improve this feature within the program. Given the highly structured program environment, and the description of several instructors that Public University has been able to incorporate changes in the past, it seems likely that future iterations of the TEP will incorporate more and more of these practices.

The term culturally sustaining pedagogies and the ideas it encompasses seemed far more unfamiliar to Danish participants. This makes sense given the highly developed sense of social responsibility of teachers and teacher education being centered around schools as a place for the continuation of Danish democracy and society: this self-perception of the role of Danish schools requires a certain conformity to Danish cultural norms. It is difficult for me, as a non-Dane, to fully understand the nuances of how cultural influences are affecting institutions in Denmark. But I often felt from these interviews that the idea of setting up a single set of norms around what it means to be American has not worked for us, and if anything the contemporary American refusal to have a larger reckoning about who is included in American society and prosperity, and who has been left out, is leading us

down a very tumultuous path. Countries tell themselves stories to help members feel part of a bigger group. These stories can help unite people under a common cultural framework. They can change or adapt over time to incorporate new events, understandings or to explain past wrongdoings. These stories can help welcome people into the fold, or they can help keep people out.

Limitations

This study uses qualitative interviews to better understand complex systems in two different countries. While I am grateful for the opportunity to work in both locations, there are limitations to this study that are worth considering. Primarily, this is a small sample size both in the number of interviews and the number and types of TEPs they represent, especially for the California side with the admittedly vast number and types of TEPs that exist. It is difficult to draw completely generalizable conclusions from a small number of participants. Secondly, the COVID restrictions present at the time of the study prevented the type of in-person rapport building that would be preferred in learning more about these themes, as well as any possibility for observations and site visits at the TEP campuses or partner schools. Furthermore, I am sure that the COVID restrictions and general shift in priorities during the pandemic impacted participant recruitment as well. However, I hope that this study and the results can serve as a roadmap for taking this research further and provide useful information to the field of teacher education and international comparative research.

Implications & Next Steps

The pitfall of international comparative research is that it is very tempting to look at another country's system and try to grab one piece of it to apply to your own domestic context. If I were to do that here, my inclination would be to say that Californian TEPs should grab the highly developed concept of social responsibility and apply it to an American context: if people trusted institutions more, then institutions would be able to better serve the public. A more restrained and actionable inference to make from this study is that a TEP operating in California is able to create a highly structured program, and that candidates and instructors are committed to the program's mission. In this particular case, there is a commitment to advancing the use of culturally sustaining pedagogies across the entire TEP. This particular commitment is tightly rooted in the sense of social responsibility of teaching and teacher education, and there appears to be an opportunity to more explicitly and purposefully embed these practices across all aspects of the TEP. Additionally, given California's fragmented teacher education system with many options and pathways to enter the teaching profession, another area of potential influence would be for programs like Public University's TEP to document its process for pursuing a revision of the program goals and implementation so that other TEPs in the state could learn from the experience.

As for implications for TEPs in Denmark, once again I am not sure that a researcher not living in Denmark permanently is in the position to discuss what a Danish TEP could learn from us. Rather, I would like to pose a series of questions to my colleagues I met in Denmark, highlighting things that I, a visitor, noticed and am still wondering about after having left. Can being Danish mean different things to

different people? While many public institutions have been successful at building public trust in the past, will they be able to do so using the same strategies heading into the future? Are there specific voices missing from the conversation? A version of these questions are all appropriate for American audiences as well.

Moving forward, there is potential for future research to explore these issues more thoroughly in California, Denmark and other teaching systems. In California, this study is limited due to only involving participants from one TEP: it would be useful to conduct a follow-up study with participants from many types of TEPs to get a better understanding of how the entire landscape of teacher education is functioning around these topics in California. This also has future implications as projects like California's statewide education data system gets online, allowing policymakers and stakeholders to identify TEPs that produce high-quality, effective and long-lasting teachers, and what strategies exist at these TEPs that could be replicated at scale.

In Denmark, it would be useful to conduct further research in how Danish TEPs continue to adapt to the evolving demographic shifts in Denmark. I noticed that there seemed to be very few teacher candidates or instructors from non-ethnic Danish groups, and this will likely be an area of growing focus as the population demographics continue to shift. An extensive body of research is being conducted on the immigrant experience in Denmark, and it is likely that a body of pedagogies specific to the Danish education context could be an area to be explicitly developed and encouraged by TEPs, especially in regions with high populations of immigrant students.

For the field of teacher education and international comparative education more broadly, this study provides a framework for how to investigate teacher education programs in different systems. Of course there is a great lineage of research in this area preceding this, and I hope that this study can serve as a next step, especially with a growing emphasis on the importance of understanding education systems in diverse and diversifying societies, and the way culturally sustaining pedagogies can be embedded within this. By selecting these three focus concepts, we can seek to understand the context of what our neighbors experience and what we might learn when applying to our practices.

Conclusion

This study aimed to better understand the experiences of candidates and instructors in TEPs in California and Denmark, specifically as it relates to program structure, a sense of social responsibility in the program, and the use of culturally sustaining pedagogies when training new teachers. At the opening of this paper, I described two systems facing two separate, but related problems: two sides of the same coin. After this series of interviews, I remain committed to this idea, and that both systems can learn a lot from each other by continuing an exchange of ideas and being willing to engage in an open dialogue. Teaching has always been a challenging profession, this is part of its appeal for many, and the practice of teacher education is uniquely positioned to influence schools in ways that other institutions cannot. By holding onto what is working and building upon it, and being willing to let go of practices that no longer serve students, teachers and teacher education can do right by the communities whose wellbeing is at stake.

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STUDY 3: FOLLOWING THE POLICY FROM PISA TO FUTURES: FRAMEWORKS

FOR INTERNATIONAL COOPERATION IN EDUCATION

Education will play a key role in the coming century as humans grapple with a series of challenges of our own making. Humans have always busied ourselves with many types of projects (and distractions), but the challenges we face in the rest of the 21st century will require a scale of cooperation, ingenuity and skill that will be a true test of our species. In order for each of us to do our part, we need education systems to prepare people for the reality of these challenges. While largely considered the purview of individual nations, education is increasingly becoming a global conversation. This paper will examine two frameworks for a global education strategy: the Programme for International Student Assessment, commonly referred to as PISA, which is administered by the Organisation for Economic Cooperation and Development (OECD) and the Futures of Education program by the United Nations Educational, Scientific and Cultural Organization (UNESCO). Each of these programs aims to unite nations under a global education strategy, and each group has a wide array of participating nations. There appears to be a global appetite for a unified education approach, and this paper will examine both approaches and outline how they are similar and different. As with any initiative, it is important for policymakers and stakeholders to understand how these programs might impact their country and which option may be most suitable for their context.

History of PISA

The first PISA wave was administered in 2000, after a year of field testing in 1999. From its origin, PISA's goal was to provide information allowing participating

countries to compare their students' performance in measured domains with those of students in other countries (OECD, 1999). At its core, PISA is an assessment tool, meant to provide feedback to national policymakers at regular intervals (every 3 years) so that they could track changes in their country's education system over time as compared against previous waves of PISA, and against other countries.

In its original administration, PISA consisted of assessments in three domains: literacy, mathematics and science, along with a background survey meant to gather information about each participating student's context. Typically, a participating country surveys approximately 5,000 of its 15-year-old students: the goal being to assess students as they near the end of compulsory education so the influences of the national system can be measured. In each cycle, one domain will be focused on to provide more detailed information on that particular subject. For example, in the very first 2000 PISA cycle, the focus domain was "reading literacy." Over time, additional domains have been added and adjustments made to the instruments used. Most recently, a "global competency" domain was added in 2018, which will be a main focus of this study.

In the original PISA cycle, 43 countries participated (NCES, n.d.) and that number has only grown over time with 79 countries participating in 2018, the most recent completed cycle (the 2021 PISA cycle was delayed to 2022 due to the COVID-19 pandemic). PISA has largely dominated the comparative education space internationally, with many individual countries using PISA results, and their place in global rankings each cycle, to make national-level education policy decisions (Breakspear, 2012).

History of UNESCO Futures of Education

The Futures framework put forth by UNESCO is a much newer arrival on the scene of global education policy. In 2015, UNESCO released the 2030 Agenda for Sustainable Development, which outlined 17 sustainable development goals. One of these goals set forth UNESCO's commitment "to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" (UNESCO, 2017). In 2019, UNESCO released the initial proposal of the Futures of Education framework, specifically calling for a need to reimagine education in the face of a growing set of global challenges: climate change, social inequalities and political extremism (UNESCO, 2019).

Over the next two years, an international commission worked on the details of the framework, releasing its report and recommendations in November 2021. This report, titled Reimagining our futures together: A new social contract for education, is broken into three main parts. The first part reviews the past 50 years of education and the general trajectory of the globe that has led us to our current point, largely described as "a planet in peril" (UNESCO, 2021). Part two outlines three main priority areas to be addressed and reimagined in education: pedagogies of cooperation and solidarity, curricula and the evolving knowledge commons, the transformative work of teachers and safeguarding & transforming schools, and education across different times and spaces. Part three outlines a shift in strategy for national and international governing bodies of education, including research, collaboration, policy and finance.

Futures is very early in its lifespan and, as of this writing, no individual nations have acted upon or committed to its recommendations as the founding report is incredibly new. There is also no explicit product, evaluation or assessment which is a large contrast from PISA where participants know exactly what they are committing to. This study will examine both Futures and PISA and lay out how their aims overlap and how they differ, and what this means for education policy at this moment in time.

Research Questions

This study will compare and contrast the two approaches to global education cooperation outlined by PISA and Futures. On the one hand, PISA has been around for over two decades and has significant influence over education policy around the world, especially for OECD members. Yet, many nations are still grappling with how to create and sustain education systems that move their youth towards long-term goals, and the global problems requiring international solutions have only intensified since PISA began. On the other hand, UNESCO's Futures is much newer, with very little established influence or track record in influencing education policy, although it directly presents itself as an education framework for the modern "planet in peril" and reimagining how education is a crucial part of humanity's survival and ability to thrive.

With this in mind, this study asks the following research questions:

- How do OECD and UNESCO conceptualize international cooperation when it comes to education?

- How do the guiding documents for each present these goals?

- What are the implications of these two organizations' approaches looking ahead?

Follow Policy

To investigate research questions 1 & 2, I utilize a network ethnography approach to "follow policy" as it relates to the development, and realization, of international cooperation in education. This development of network ethnography stems from Marcus' 1995 paper outlining the need for "multi-sited ethnography" in anthropological research. Originally, Marcus outlined one method of following a "thing" through the course of history, or between different geographic locations, positing that this could also include abstract "things" like intellectual property (Marcus, 1995). A 2016 paper by Ball advanced the method into "following policy" as a way to better understand the evolution and implications of current policy (in his case, education policy in India) (Ball, 2016). Furthermore, Gardinier utilizes the "follow policy" approach in her 2021 paper following the development of the idea of "globally competent learners," particularly through the constructions of organizations like OECD (and by proxy, PISA) and the implications for education policy in individual nation-states (Gardinier, 2021).

Especially with a topic like international cooperation, the policy realm I discuss here transcends geographic boundaries, as well as organizational boundaries as the type of topics discussed here involve intersecting decisions by national governments, their corresponding executive and legislative arms that may enact domestic education policy, as well as international groups like OECD, UNESCO or the European Union (EU). Furthermore, the time in which I write this

also influences the way policies are being developed, implemented and changed such as through the broader challenges of climate change, or through the current COVID-19 pandemic which demonstrated the ability of education systems to quickly make radical changes in ways that were not possible in a pre-COVID context.

For the purposes of this paper, I will focus on four main events in the discussion around international cooperation in education policy: two that relate to PISA and two that relate to Futures. For PISA, I am selecting the original report outlining the creation and design of PISA prior to the launch of its first cycle (OECD, 1999) called Measuring Student Knowledge and Skills: A New Framework for Assessment as well as the 2020 PISA report outlining the results from the creation of a global competencies framework in the 2018 cycle called Are Students Ready to Thrive in an Interconnected World? These two documents, over 20 years apart, represent a significant development in PISA's story and influence over the discussion of education globally. To examine Futures, I have selected the 2030 Agenda for Sustainable Development which is the document where UNESCO lays out the goal that would eventually become Futures (UNESCO, 2017), as well as the 2021 first report from the Futures commission called Reimagining our futures together: A new social contract for education (UNESCO, 2021). These two UNESCO documents represent the early development of the Futures framework, and occur at an important period of time for international cooperation.

Human Capital Or Humanist

The neoliberalization of the developed world was well underway before PISA entered the scene in 1999. The OECD itself began as the OEEC: the Organisation

for European Economic Cooperation, a vehicle for stimulating economic growth, trade and the rebuilding of Europe after World War II (OECD, n.d.). Since its inception, economic development was seen as the vehicle for improving the quality of life for citizens in member countries. Over time, the idea of cultivating human capital as a desired input for growing a nation's economy became more and more mainstream. This view has been discussed in relation to the role of PISA as a way to measure educational performance for the purpose of contributing to a nation's economic success. Vaccari & Gardinier outline this path of human capital becoming a focal point for OECD starting in the 1980s, and then moving into its pre-PISA education project before becoming a key underpinning for the PISA we know today (2019). The central implication of a human capital view of the purpose of education is that improvements in the quality of life are contingent on economic development or success, and the way to achieve economic success is by having the skills, knowledge or ability to contribute in a way that is valued by your nation's labor market. More simply put, and familiar to American educators, is that the purpose of compulsory education is for students to be "college and career ready."

UNESCO's approach with its Futures framework is a significant pivot towards what can be described as a humanist approach to education. In this modern interpretation of humanism, the mechanism for improving the quality of life of people around the world is intertwined with our collective ability to rediscover what it means to be human and to orient our societies towards that goal. This is often interpreted as a commitment to human rights and, especially in the case of UNESCO's Agenda for Sustainable Development, a rediscovery and recommitment of how humanity can

live in harmony with the natural environment, especially as it relates to the imbalance of our current industrial and consumer-driven economies. UNESCO itself states, "Nature is the basis of human existence and its destruction threatens the existence of humankind. Thus, the protection of nature is the protection of man." (UNESCO, 2021). Through this lens, the goal of education is still about improving the quality of human life, but less through the mechanism of economic development, and more through the focus on human society and, especially urgent in the current climate crisis, a re-achievement of equilibrium with the natural world. This is a significant departure from the current iteration of most schooling systems, and economies, around the world.

Artifact 1: A New Framework for Assessment

The founding document of PISA opens with a restatement of the key commitments of OECD since its inception in 1961. Mainly that OECD "shall promote policies designed: to achieve the highest sustainable economic growth and employment and a rising standard of living in Member countries … to contribute to sound economic expansion … to contribute to the expansion of world trade." (OECD, 1999). Over 30 years later, OECD lays out the plan for the first cycle of PISA, presenting it as a joint effort by member nations to measure the performance and success of their education systems, for the primary purposes of "provid[ing] empirically grounded information which will inform policy decisions." (OECD, 1999).

Since that first cycle, PISA has purposefully avoided being directly tied to measuring student achievement against specific national curricula (Baird et al., 2011), but rather aims to measure students' ability to apply what they have learned

through their schooling in various domains: mainly reading literacy, mathematics literacy and scientific literacy in that original cycle (OECD, 1999). Building and administering a single program to assess dozens of countries around the world is no easy feat. Criticisms of PISA's methods and structures have centered on its reliance on translating materials mainly from English into the participating countries' local languages, the sampling methods of schools and students, and the validation and analysis methods (Baird et al, 2011), among others.

As it relates to international cooperation, PISA in its founding document, and consistently ever since, promotes itself as a way for nations to understand how their education system performs over time, and how they compare to other countries around the world (OECD, 1999). Initially, the first wave of results from the 2000 cycle did jolt some countries into taking action based on PISA results, perhaps the most well-known being Germany's "PISA shock." After the 2000 PISA results were released, Germany learned it had performed below the OECD average in all three of the assessed domains: reading, mathematics and science. OECD itself touts Germany's performance and subsequent reforms as an example of what PISA is designed to do, citing a doubling in education funding and numerous reforms by the German federal government, including introducing federal education standards, in the aftermath of that first set of results (OECD, 2021).

Finland is often referred to as a leader in education, and a large part of that international recognition is due to the country's consistently high performance on PISA since the first cycle. Finnish students typically perform incredibly well on all domains measured by PISA and have since become a focus for many other

countries trying to figure out what works. This would fit in with OECD's purpose for

PISA: countries participate, everyone finds out who does well, and a conversation is

started about how they got there and what can others learn. However, a 2011 paper

by Sahlberg raises the Finnish example and asks if this system is as simple as it

seems. Perhaps, Sahlberg argues, what works in Finland is not completely

exportable to other countries, and due to the timing and nature of PISA's

assessments, the international education community misses the context of Finland's

reforms that were well underway before PISA came online (Sahlberg, 2011).

Educators in Finland also express similar sentiments that PISA only captures a small

slice of why Finland's schools are the way they are, and does not account for things

like Scandinavian culture or the role of teachers (Sahlberg, 2011), all things that

would not be immediately exportable abroad.

Follow Policy Analysis

This artifact presents the formalization of quantitative assessment for

comparative purposes in education. It is certainly a turning point in how international

cooperation is defined as right from its inception; it has the support of many rich

nations who are OECD members. At this point in time, OECD is nearly 40 years old,

and the adherence to economic development and global trade has undoubtedly

raised living standards for hundreds of millions of people across the globe, so this

expansion of these values into compulsory education systems is a reasonable step

given the context: the pathway to a comfortable life for individuals is through

economic success and in this view, education systems are pipelines to the

workforce. What is also interesting is the reaction that the early waves of PISA

immediately triggered: such as the reforms in Germany, or the elevation of Finland. PISA quickly became the norm for international comparison, although it is unclear whether that is synonymous with international cooperation.

Artifact 2: Global Competencies in PISA

The 2018 PISA cycle included a new domain: global competencies. In this domain, PISA aimed to "assess the global competencies needed to live in an interconnected and changing world" (OECD, 2020). By this point, PISA had been through 7 cycles and was now being administered in almost 80 jurisdictions (some countries may have only certain locations participate, such as Baku City in Azerbaijan, or due to international relations may not be explicitly defined as a country by OECD, such as Chinese Taipei/Taiwan). The world had also been through many changes since the first PISA cycle in 2000. The 2008 recession had rocked most developed economies, China and India were taking more of the spotlight as growing superpowers, and the scientific community had coalesced on reasons for human-caused climate change and the immediate action needed to address it (while global CO_2 emissions continue to rise). Several previously reliable players in the stability of liberal, Western democracies were also retreating from international frameworks: Donald Trump was elected in the US in 2016 and began pursuing a more nationalistic and isolationist stance, and the United Kingdom had voted to leave the EU in 2015.

With this backdrop, PISA included its new global competencies domain and described four main reasons that students would need "intercultural and global skills." The four reasons are: "to live harmoniously in multicultural societies, to thrive

in a changing labour market, to use media platforms effectively and responsibly and

to support the UN Sustainable Development Goals" (OECD, 2020). These same

Sustainable Development Goals would soon bring forth UNESCO Futures.

Interestingly, PISA does present the results of the global competencies domain in

many interesting ways that provide insights in how participating students in different

countries perceive and think about these issues. Yet, the report also includes a

ranking table as in the other traditionally academic domains (reading, mathematics

and science). In this table, countries are ranked according to the percentage of

correct answers their test-takers gave in the "Examining issues of local and global

significance" section (OECD, 2020).

Follow Policy Analysis

Nearly two decades into PISA's dominance as a global education comparison

tool, it is clear that while the system has matured, it is due for repositioning. As

explained above, it seems impossible to ignore the rapidly changing context in which

PISA is operating. Adding a global competencies domain seems like a way for PISA

to respond to a changing policy climate that is asking for meaning beyond rankings

in academic subjects. PISA seems to in some ways cling to its human capital roots,

and the economic-based goals of OECD, by focusing on the need for preparation in

a global labor market as one of the justifications for a global competencies domain.

At the same time, PISA specifically references UNESCO's Agenda for Sustainable

Development which, unbeknownst to PISA at the time, would end up taking a

different approach to global education. What is also unclear from this first wave of

global competencies results is how member countries are meant to respond.

Artifact 3: 2030 Agenda for Sustainable Development

UNESCO establishes 17 Sustainable Development Goals in its 2015

document, and they cover a broad range of global issues, ranging from a

commitment to clean water and sanitation, promoting ocean science research,

supporting both climate change mitigation and adaptation, a commitment to

supporting the goals of the African Union, and an eradication of global poverty. The

most relevant goal to this paper is Sustainable Development Goal 4: "Develop

education systems that foster quality inclusive education and promote lifelong

learning opportunities for all" (UNESCO, 2017). The report further specifies how

SDG 4 directly supports 10 other goals, and that UNESCO is committed to further

developing a framework for what education systems aligned with SDG 4 could look

like.

The goals echo what many educators have long championed: education

underpins nearly every aspect of our societies. Similar to Artifact 2, it is important to

understand the context under which this 2030 Agenda for Sustainable Development

was released. For many of the same reasons stated above, there is a general

sentiment that many things are wrong and global cooperation is needed on many

fronts, simultaneously and with sufficient resources. From this vantage point, the

idea of 17 concurrent goals is more understandable.

Follow Policy Analysis

UNESCO's existence is predicated on the idea that an external, international

body can influence change at national levels. This guiding document's incredibly

broad scope is difficult to summarize or fully grasp. That being said, it is worth noting

that while the document does not specifically call out the economic systems of the past 75 years as being part of the reason behind why these 17 goals are needed, it does seem to imply that a major realignment of how human societies function and interact with the planet is urgently needed now because of the way we have been functioning up to this point. Also the complex and interwoven relationship of the education-focused SDG 4 is likely familiar to many in the education field, and it is worth noting that the document does not mention subject competencies like reading or math as what the planet should be focusing on when it comes to education.

Artifact 4: Reimagining Our Futures Together

This report released in 2021 is UNESCO's first comprehensive description of its Futures of Education framework, borne out of SDG 4 and the 2030 Agenda for Sustainable Development. While the work of the commission was underway after the initial 2015 agenda, the report was released in the middle of the COVID-19 pandemic, highlighting the relatively dire assessment of the global landscape. This report explains UNESCO's view of inequitable education systems, rising income inequality and persistent global poverty, as well as the urgency of the climate crisis coupled with backsliding democracy in many parts of the world (UNESCO, 2021).

While the opening chapters are sobering, the second part of the report functions as a call to action for how education systems can, and must, be part of the solution to global problems. Each of the chapters in this section outline what school systems can commit to enhancing over the next few decades, namely pedagogies that emphasize cooperation, curricula that commits to a "knowledge commons",

supporting the work of teachers, rethinking schools to best serve humanity's current needs, and expanding access and rights to education (UNESCO, 2021).

When describing how countries can know if what they are doing is working, Futures specifically emphasizes the need for data collection, rigorous analysis and shared results, but also cautions against the over-quantification of education systems (UNESCO, 2021). The report further elaborates that education research should focus on an agenda that helps to co-construct education as a common good, and encourages collaboration between researchers and practitioners, as well as both the achievement of local and international goals for education (UNESCO, 2021). Specifically, the report take the following stance on using research for rankings: "Too often, however, comparisons and rankings are used punitively, steering away financial support or family enrollment from those settings that need it most. Comparison does little when it flattens experience, homogenizes expectations, and ignores the diversity of context, resources and historical factors" (UNESCO, 2021).

Follow Policy Analysis:

Given where the discussion was around what was needed for international cooperation in 1999 when PISA first began, to the publishing of this report in 2021 it is clear that the international context is entirely different and there is a significant contingent of people advocating for a shift in focus. This document is explicitly highlighting real threats to the stability of our current societies, and outlines ways that education can work to promote a more just and stable planet. The urgency is a result of our species' own actions up to this point, and the Futures framework is

positioning itself as a way to move forward. At the same time, while the document outlines broad next steps for countries, it does not provide specific details. While part of this is intentional and in line with the philosophy of promoting education systems that meet local needs, it also reads like an interim piece, waiting for dissemination and preparation of detailed actions for countries to take.

Discussion

This paper aims to understand the evolution of two important groups' influence on international cooperation in education policy. By focusing on guiding documents from important points in time in the history of OECD's PISA and UNESCO's Futures, I aim to provide a more cohesive view of the changing scope of international education policy, especially against the changing global context where these groups find themselves.

When considering where the world was at the start of PISA, and looking at where it is now, the biggest takeaway to convey is that I question the function that a program like PISA offers in its current format. While it is possible that the idea of a standardized global assessment of what students were taking away from their experience in compulsory education was novel in 1999, by now the program has matured but there do not seem to be meaningful global benefits, such as widespread and sustained improvements in the school systems that have been participating. Whether that is because PISA was always unable to fulfill those goals, or because the background context has shifted so drastically since PISA began is not the focus of this paper, but it does seem that if individual nations were going to make sustained, meaningful changes based on the comparative nature of PISA, we would

be seeing signs of this. PISA may argue that these changes do exist (such as with the German PISA shock example), however I posit that the answers PISA provides are for different questions than those that need to be answered now.

OECD's roots are as an economic growth advocacy group, assembled in the aftermath of the most devastating war Europe had seen. The promotion of economic growth as a mechanism for individual prosperity has helped many many people (the author included). However, it has come at great communal and environmental cost, and it is not sustainable for the hundreds of millions of people who still do not enjoy the quality of life that economic growth policies promise, not to mention future generations. I am unsure of the value of assigning blame to policies from the past that cannot be retroactively changed, however I do believe the evidence points to moving away from this mindset moving forward.

Which brings me to the path forward proposed by Futures. The theory behind Futures seems to acknowledge the realities that education systems around the world find themselves in. While the value of work and economic security is an important part of the human experience, and will remain so for the foreseeable future, the Futures framework more accurately reflects the challenges that face humanity that will not be solved by free markets, and will require explicit international cooperation.

The challenge facing the Futures framework is that currently no nations have directly incorporated it into their education systems. Granted, this is likely due entirely to how recently the framework has been released, but it will be a big lift in asking countries to incorporate the framework into their individual practices. In this way, Futures lacks one major benefit that PISA provides, clear parameters of what

basic participation requires. When a country joins the PISA project, they know there will be an assessment developed for them, that they will follow a procedure for sampling and testing their students, and then will receive results from OECD which they can use internally as they see fit. Futures requires a much more radical restructuring of the way governments function. From UNESCO's framing, the moment we are in requires radical and immediate action, and while many countries recently have experience with rapidly responding to an unprecedented situation via the COVID-19 pandemic, it remains to be seen if that kind of response will occur in this context.

Conclusion

The development of OECD's PISA and UNESCO's Futures of Education occurred under very different circumstances in organizations tasked with very different missions. The next few decades will require global solutions to global problems, and leveraging the education system as a tool in this will be a key strategy in shaping the future. Humanity has rapidly reshaped society in the past, both in planned and unplanned circumstances, so while the idea of rebuilding an education system sounds like a daunting task, it is worth the endeavor of engaging in these discussions and planning now, so that when the opportunity presents itself, we can do so in a way that is sustainable, just and equitable.

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CONCLUSION

This dissertation explored three separate arenas of policy education at three different levels of policymaking for the purpose of demonstrating the way education policies exist in social contexts unique to their place and time. By selecting these three specific studies, I highlight how policies are related to their situations, and that understanding this is crucial when designing, implementing and revising policy to best serve students, schools and societies.

The first study explored the relationship between school bus-taking and attendance for students with disabilities. The study found that students with the most common diagnoses categories had significantly higher attendance behaviors than those students with the same diagnoses who did not take the bus to school. This study has implications for school systems to consider how external services, such as transportation, may be used as interventions for promoting crucial behaviors like strong attendance. It is also an example of a hyperlocal policy, as school transportation services are administered by local agencies, and often vary even between schools or times of the year. By utilizing a national dataset, we were able to see how these disparate systems may be operating at a national level, and provide a direction for further research into this area.

Study 2 used original interviews to collect data on how teacher candidates and instructors experience three focus concepts in their TEP. Conducted in California and in Denmark, this study operates in a comparative education framework and highlights how studying another country's system can help you better identify strengths and weaknesses in your own. This study found highly structured

and cohesive programs across participants in both locations, and posits that California's teacher education (and education system more broadly) can build on its commitment to social justice to enhance the sense of social responsibility and purpose within a teacher education program. The study also suggests a framework for exploring these issues and concepts in additional California TEPs to gain a better understanding of how the teacher education system in the state is functioning as it relates to these concepts. This study is an example of how a state-level system (or national in Denmark) can be a policy lever for influencing schools and classrooms.

Study 3 analyzed key texts in the progression of OECD's PISA and UNESCO's Futures framework. In this study, I utilized a "follow policy" method to explore these policies as they changed over time, and as the background context also evolved. I suggest that PISA may be mismatched to the current realities of global education policy, especially given the myriad of challenges that countries are facing, and that education may be a tool to address. This study is an example of how education policy can be active and ongoing, shaped by global players like OECD and UNESCO, but also how individual researchers and practitioners can take part.

Together these three studies demonstrate the way education policy is a field that operates at many different levels, and invites many different research approaches. These three studies utilize three very different data sources: large-scale quantitative, originally-collected qualitative data (interviews/transcripts), and policy artifacts. The three studies also employ different methodological approaches to each: advanced quantitative modeling, qualitative content analysis to construct a corpus of keywords/fragments, and a policy application of an ethnographic approach

with its roots in anthropology. Lastly, these three studies focus on three different levels of policymaking: bus-taking/school transportation is an example of a policy largely decided by local districts, teacher education in the US exists mainly at the state level, and global comparative frameworks exist internationally and may be adopted by individual nations.

While each study has individual implications for policymakers in the respective arenas, there are also cohesive implications. It is crucial for policymakers, educators and researchers to remember that individual students and families do not experience schooling as a siloed system. While schooling is just one part of a person's full life, it often overlaps and intertwines with a person's entire life. Riding a school bus could be one of the very first things you do in the day, and the availability of that service could make or break your experience at school. Students have very little control over who their teachers are, and so the quality and focus of the teacher education system that trains your educators matters, and it will impact you beyond the time you spend in their classroom. Whether or not your country has adopted UNESCO's Futures will influence how your school talks about the purpose of your education. These policies have a very real impact on individuals and it is our responsibility as researchers to keep that in mind.

Policy is the science and the art of creating the rules and guidelines that bring our society's values to life. Dutch education philosopher Gert Biesta wrote (2011):

> While I do wish to emphasise that learning can make an important contribution to democracy and democratisation, it is important not to forget that learning can only do so much. I say this because there is a growing tendency in contemporary politics to reformulate policy issues into learning problems and thus leave it to individuals and their learning to solve problems that actually should be solved at a collective level, through structural change and government action. (p. 3)

Both policy and education are collective acts that are composed of many individuals' work and contributions. Through this dissertation, I hope that I have demonstrated research that can directly contribute to this collective work, as well as provided a framework for how to continue this collaborative and applied approach to education research and practice.

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APPENDIX I: INTERVIEW PROTOCOL

Interview Instrument 1: Teacher Educators

Thank you for agreeing to participate in this interview. I'm going to ask you a series of questions to learn more about your work in teacher education, the structure of your program, and the way that it prepares teachers to work with bilingual students and students from minoritized backgrounds. You are welcome to skip any question that you do not wish to answer, as well as to stop the interview at any time. Also, I will record the audio of our conversation to transcribe later. After I've transcribed the interview, I will delete the audio recording. Do you have any questions for me before I begin recording?

Module 1: Program Structure

To begin, I will ask you a few questions about your teaching experience and how you transitioned into teacher education.

1. How did you end up pursuing a career in education?
2. Tell me about your experiences as a classroom teacher.
    1. What grades/subjects did you teach?
    2. Where/what district did you work in?
    3. Where did you complete your own teacher training?
    4. What did you like most about teaching? What was most challenging?
3. How did you transition from working in schools to teacher education?
    1. What has it been like for you?
    2. What do you like about it?
    3. What do you find challenging about it?
4. Where does your course or role fit into the Program?
5. What type of autonomy do you have in your role?
6. Tell me about a time you worked as part of a team while working with this teacher ed program.
7. How does the Program address making changes?
8. What is the big takeaway that you hope your teacher candidates get from your class/role/position?

Module 2: Social Responsibility

I'd like to learn more about your teacher education program.

1. Tell me about the goals of [Program Name]'s teacher ed program.
2. How does your program work to achieve these goals?
3. What do you think are some things that [Program Name] does well?
4. What are some areas where you think it could be improved?
5. How does your Program view the role or purpose of teachers?
6. How does your Program view the role or purpose of schools?

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Module 3: Culturally Sustaining Pedagogies

For participants in Denmark: *In this last section, I will ask you some questions about how your program prepares candidates to work with students from non-Danish language and ethnic backgrounds.*

For participants in California: *In this last section, I will ask you some questions about how your program prepares candidates to work with students from non-English speaking households, as well as from minoritized backgrounds.*

1. In your subject area, how does the teacher ed program help teacher candidates prepare to work with students from different language backgrounds?
    1. What materials are used?
    2. What pedagogical strategies are taught?
    3. What other practices/activities are done to help?
2. In your subject area, how does the teacher ed program help teacher candidates prepare to work with students from different ethnic backgrounds?
    1. What materials are used?
    2. What pedagogical strategies are taught?
    3. What other practices/activities are done to help?
3. When there is a student from a non-Danish/minoritized background in a classroom, how does their home language and culture help them succeed in school?
    1. How might it prevent them from succeeding?

Interview Instrument 2: Teacher Candidates

Thank you for agreeing to participate in this interview. I'm going to ask you a series of questions to learn more about your participation in your teacher education program, the structure of your program, and the way that it prepares teachers to work with bilingual students and students from minoritized backgrounds. You are welcome to skip any question that you do not wish to answer, as well as to stop the interview at any time. Also, I will record the audio of our conversation to transcribe later. After I've transcribed the interview, I will delete the audio recording. Do you have any questions for me before I begin recording?

Module 1: Program Structure

To begin, I will ask you a few questions about your teaching experience and how you transitioned into teacher education.

1. Tell me about your current status in your program?
    1. What classes are you taking?
    2. Have you started any student teaching placements?
2. How are the classes/experiences in your program ordered?
3. Do the instructors and faculty in your program work together? How do you know?
4. What does your program spend a lot of time on, or emphasize?

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5. Tell me about a time you worked as part of a team while working with this teacher ed program.
6. How did you decide to enroll in a teacher education program?
7. How did you decide to enroll in *this* teacher education program?
    1. What has it been like for you?
    2. What do you like about it?
    3. What do you find challenging about it?
    4. What parts have been different from what you expected?

Module 2: Social Responsibility

I'd like to learn more about your teacher education program.

1. From your experience so far, what are the goals of [Program Name]'s teacher ed program.
2. How does your program work to achieve these goals?
3. What do you think are some things that [Program Name] does well?
4. What are some areas where you think it could be improved?
5. How does your Program view the role or purpose of teachers?
6. How does your Program view the role or purpose of schools?
7. What are you looking forward to in the time you have left in your program?

Module 3: Culturally Sustaining Pedagogies

For participants in Denmark: In this last section, I will ask you some questions about how your program prepares candidates to work with students from non-Danish language and ethnic backgrounds.

For participants in California: In this last section, I will ask you some questions about how your program prepares candidates to work with students from non-English speaking households, as well as from minoritized backgrounds.

1. What has your program taught you so far to prepare you to work with students from different language backgrounds?
    1. What materials are used?
    2. What pedagogical strategies are taught?
    3. What have you seen your Cooperating Teacher do?
    4. What other practices/activities are done to help?
2. What has your program taught you so far to prepare you to work with students from different ethnic backgrounds?
    1. What materials are used?
    2. What pedagogical strategies are taught?
    3. What have you seen your Cooperating Teacher do?
    4. What other practices/activities are done to help?
3. When there is a student from a non-Danish/minoritized background in a classroom, how does their home language and culture help them succeed in school?
    1. How might it prevent them from succeeding?