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# The Making of Black Urban Entrepreneurs

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## I. Introduction

Black entrepreneurs have played a significant role in the economics, politics, and sociology of Black Americans, and many books and studies have confirmed this unique and crucial role. Among these are the excellent studies by Bulter (1991), Woodward (1998), Boudreaux (2004) and Boston (2014). These authors provide a thorough framework within which we may understand the importance and impact of Black entrepreneurship, the guidelines for establishing entrepreneurial enterprises, and the large and small issues and problems associated with entrepreneurial ventures and activities. The central themes permeating these studies and discussions have been the link and values of entrepreneurship on issues related to racial solidarity, self-help and self -reliance. These books also make the case for a recursive relationship, in that racial solidarity, and concepts of self-help and self-reliance are crucial in establishing Black entrepreneurship. The reverse is also true: the growth and development of Black entrepreneurship may be crucial towards creating the structure to sustain and promote racial solidarity, self-help and self-reliance. Thus, entrepreneurial life in the Black world would serve several purposes, one of which would be the self-employment of the entrepreneur, the other might be giving the individual entrepreneur a degree of financial independence. A third purpose is to provide goods and services to the Black community. A fourth purpose would be that of skill development among the Black population to lessen the impact of discrimination and racial disparities. The premises and logic for such ideas were clearly laid out by Booker T. Washington when he created the National Negro Business League in 1900 and later elaborated by him in his historical and contemporary account of these entrepreneurial activities in his 1907 book, The Negro in Business.

Most historical and contemporary studies of Black entrepreneurial enterprises have focused on banking, life insurance companies, savings and loan associations, funereal homes, cosmetic companies, newspapers, labor organizations, and labor unions. The creation of these enterprises has not only been crucial to Black employment, though this has been crucial. These enterprises have been central to the acquisition of skills and professional lifelines to many Black Americans whose mobility had been blocked by the lack of opportunity in a system which has systematically excluded Blacks from the opportunities available to the larger dominant society. Booker T. Washington (1901) provided an organizational and institutional framework for the sociology, politics, and economics of Black entrepreneurship when he created the Negro National Business League in 1900, but even before its creation, there were earlier attempts (Bulter, IBID) and Trotter, IBID) to create entrepreneurial ventures by Black Americans. These

early entrepreneurs, no doubt, possessed the grit, determination, and the will and desire to excel and achieve as the men and women in the present study illustrate.

Of all the studies focusing on Black entrepreneurs, the study that is most interesting, and like the present study, is the Woodward (1998) study. This is so, because the study contains the life histories of selected entrepreneurs. Such histories permit the reader to follow individual entrepreneurs as they move from childhood to maturity, and in the process, assess the issues, individuals, and situations which aided, slowed, or defeated, respondent's quest to fulfill their entrepreneurial objectives. In Woodward's study, one follows the narratives and learns much about the personalities of the entrepreneurs as well as the situations and circumstances, hurdles, obstacles, and victories which collectively characterize the history, sociology, politics, and economics of the entrepreneur, as well as the social, political, cultural, and economic setting in which entrepreneurial activities exist.

## II. Theory and Theoretical Framework

There are excellent accounts of entrepreneurs which delve into historical accounts of the role of entrepreneurs. These accounts also, simultaneously, provide insights into theories of entrepreneurial activities. Among these are works of Joseph Schumpeter (2017) and David McClelland (1953, 1961,1969). There are also, however, earlier books by Max Weber (1930[1904], 1947[1922]) on the historical role of entrepreneurs as well as the theory of entrepreneurship. These books have provided excellent insights into the psychology, sociology, history, and economics of entrepreneurs and the world of entrepreneurship. They, however, did not delve into the unique issues and problems germane to the world of the Black Entrepreneur, although McClelland has written a great deal of motivational research. Their books probe the internal psychological struggles besetting those embarking on the difficult road to entrepreneurship and the social, political, and economic world within which this internal psychological struggle takes place. Collins, Moore, and Unwalla (1964: 4) have provided a useful definition of the entrepreneur which characterizes the individual entrepreneurs in this study. For them, the entrepreneur is one who "…braves uncertainty, strikes out on his own, and through native wit, devotion to duty, and singleness of purpose, somehow creates business and industrial activity where none exists before." This definition highlights the difficulties confronting those embarking on entrepreneurial ventures. We must then assume double difficulties for Black entrepreneurs in a racially divided society.

When assessing the total life experience of Black entrepreneurs, it is important to view those experiences through the lens of "the dual hurdle." One might also describe this "dual hurdle" as a "dual obstacle course." Booker T. Washington touches on this duality in his book, The Negro in Business(1907), but he is careful not to have an extended discussion of racial discrimination, this dual hurdle, as he wants to make the case, forthrightly, that the Black entrepreneur, and Blacks in general, must prepare themselves, and succeed "despite" the prevalent, and on-going, and persistent racial discrimination which makes up the dual hurdle. The thesis for such an assumption was sketched by Washington in his book, Up From Slavery (1901), where he asserts

that ultimately, and hopefully, the quality of what is produced may/should be a determining factor in who buys your product, rather than whether potential customers like, or dislike, the producer of the product.

There also exists a view expressed by many respondents in this study, one the authors characterize as "standing strong theory," a "resistance theory" of not giving up or giving in. It is an "I'll show you theory." It says, "you think I can't make it, don't you? Well, I'll show you that I can." In many ways, subtle, and not so subtle, this "resistance theory" runs through much of the narrative of many of the respondents in this study. The resistance theory is a central theme in the narratives because so many of the questions regarding childhood, youth, and young adulthood are connected to a period in the lives of respondents when race, racism, and Jim Crow Laws were central to the political, cultural, economic, and educational customs and values which dominated and controlled their everyday life. This would be the reality for most respondents in this study.

Albert Bandura's (1971) social learning theory also provides useful insights into the social and psychological world of respondents as entrepreneurs, especially his views on observational learning and self-efficacy. These two perspectives are clearly demarcated in young entrepreneurs as they keenly observe the entrepreneurial activities of parents, family members, and neighbors. The motivation factor connected to entering the entrepreneurial world as young as some did, was not asked. However, the fact that many entered entrepreneurial activities at a young age may indirectly address the self-efficacy issue and the fact that even as the late childhood period, many sought a degree of independence.

## III. Methods and Data

Structured interviews, each lasting at least an hour, were conducted with twenty-six respondents. For convenience, four of the interviews were conducted over the telephone. Unlike most studies of Black Entrepreneurs which largely focused on banks, insurance companies, funeral parlors, and other large Black entrepreneurial enterprises, this study focuses on street vendors, small, organized carpentry and brick mason groups, small flea market and thrift store operators, landscape company owners, the one-man home located barbershop, and small housing and church cleaning units. Although the interviews were structured, respondents, while responding to specific structured questions, often extended and elaborated on many of their answers. Their elaborations on the structured questions constitute brief stories in this article. Except for three respondents who were born in the North—New York, Pennsylvania, and Massachusetts, the other respondents were born either born in Richmond or came to Richmond with their families when they were quite young. Twenty-three of the respondents were men, three were women, and the ages of respondents ranged from the late 30s to the late 50s. Fourteen of the respondents were married, three were single, nine were divorced, and two were widowers. The study was funded by a Summer Grant provided by George Mason University.

Since the small entrepreneur was the focus of this study, the owner of a small lawn mowing company that had been cutting grass and landscaping in a local Richmond community for many

years was contacted. After explaining the purpose of the study, he agreed to provide the names of the owners of other small entrepreneurial businesses in the city. In addition, similar requests were made in a local barber, an acquaintance at the local flea market, and a local paint crew that had been working in community for many years. These individuals provided the names, sometimes the telephone numbers, of other small entrepreneurs.

## IV. The Siblings of Entrepreneurs

Most of the respondents were born in large families, a fact not unusual in the South, rural or urban. Four respondents had four siblings, four had five, five had six, two had seven, two had eight, and one had ten. The most interesting fact in the sibling issue is the birth order thesis. Contrary to studies which highlight and illustrate a relationship between birth order and leadership or success, this study does not necessarily support this thesis, since slightly more of the respondents were the middle child, rather than the oldest child. One of the first studies which raised the importance of birth order was the study by Anne Roe (1952) on the making of a scientist. Like this study, Roe's study did not indicate a high percentage of first born becoming scientists, though she did conclude that being a first-born, or being born close to a first-born may result in the "development of personal independence to a high degree", and that being a first-born, or near a first-born, "they might and sometimes did, get considerable indulgence in the matter of pursuing their own interests which was of benefit to them." (IBID, 72). When asked how well they got along with siblings when they were growing up, the vast majority indicated "very well." The "well" category was second. The "so-so" and "not so good" categories each had one response.

## V. The Occupations of Parents

When discussing parental occupations, it is important to note that respondents often distinguished the time sequences of parental occupations. For example, many parents worked on multiple jobs simultaneously. In addition, many respondents replied that their parents worked on jobs in one area for five to ten years, then moved on to other jobs. Consequently, the list given by respondents reflects multiple jobs in one period, and multiple jobs over a five-to-ten-year period.

*The Occupations of Mothers*

Seamstress
Hospital Attendant
Factory Worker
Maid
Nurse
Teachers Aid
Bus Driver
Government Supervisor
Cleaning Homes
Teacher

Moonshine Operator
Housewife

Regarding the above list of occupations, six respondents cited maid, three cited housewife, and three cited factory work.

*The Occupations of Fathers*

Fathers worked in twice as many occupations as mothers. There is great variance in the occupations of fathers, and the occupations of fathers are different from the occupations of mothers. This fact may reflect the diversity of occupations made available to men in the society, in contrast to those available to women.

Bus Driver
Teacher
Tractor Trailer Driver
Grounds Foreman
Correction Officer
Factor Worker
Janitor
Cook
Construction Worker
Taxi Driver
Lawn and Landscape worker
Clerk in Grocery Store
Brick Layer
Stevedore
Railroad Worker
TV Repairman
Electronic Business
Grounds Foreman at High School
Furniture Maker
Operated Small Fish Market
Operated a Small Cleaners

"Who had the greatest influence on you while you were growing up, and who encouraged you to engage in entrepreneurial activities?"

Respondents' answers to these two questions were so similar that the two headings were combined. The two questions were combined because it might be difficult to disengage entrepreneurial issues and interests while growing up from other purely family social and personal issues. In any case, there was a high degree of consistency among respondents to the two questions. In fact, respondents often mentioned more than one influential, both as

entrepreneurial encourager and as people having the greatest influence on them while they were growing up.

Fathers were listed seventeen times as the person who encouraged them to engage in entrepreneurial activities, and mothers were listed eleven times. For encouraging entrepreneurial activities, grandfathers were listed 7 times; grandmothers, 6 times; uncles, 7 times; aunt, 1; friends and peers, 8; sister, 4; stranger, 2; brother, 1; no one, 5.

Fathers also headed the list of the person who had the most influence on respondents while respondents were growing up, being listed ten times, followed by mothers who were listed eight times. Others followed in this order: grandfathers, 6; grandmother,5; sisters, 3; uncles, 3; aunt, 1; high school teacher, 2; church member, 2; football coach, 1; neighbor, 1; no one, 2.

*The Case of Missing Fathers*

As indicated in the discussion above, fathers were both important in encouraging early entrepreneurial interests and engagements, and as important people in the lives of respondents while they were growing up. However, poignant observations and insights by Roe (1952) and McClelland (1961) on the role of fathers on the success of sons are interesting. In this present study of entrepreneurs, respondents were asked whether there was a death, or divorce, in the family before they were twelve years old. Ten respondents, almost half, had experienced a death in the family before they were twelve, two experienced a divorce. Six respondents lost a father, two, a mother, and four lost grandparents. Both Roe (1952, 86) and McClelland (1961, 404-405) suggest that a father's absence from the home may encourage and promote more independence and a greater achievement orientation in sons. This is an interesting point, as more contemporary studies have highlighted the negative consequences of missing fathers.

VI. The Education of Entrepreneurs

Collins and Moore (1964) cited the lack of formal education as a reason why many become entrepreneurs. Whereas, this might be true in some cases, it is not the case for respondents in this study. All respondents in this study finished high school, twenty-five percent finished college and twenty-five percent attended a vocational trade school. Despite finishing high school, and for a few, attending college or vocational trade school, and despite their entrepreneurial successes, they all agreed on one point: They were not book readers, and did not like to read. Books, therefore, were not the inspiration for their interest in entrepreneurial ideas and activities. But they did read, however. Not books, but magazines such as National Geographic, Ebony, and Black Enterprise, and they watched quite a few television shows such as the Discovery Channel, music and video shows. A few respondents noted that being acquainted with the life and experiences of national figures such as Malcolm X, Langston Hughes, and other national leaders sparked an interest in entrepreneurial activities.

In elementary and high school, respondents cited these courses as their favorites, listing their importance in this order: History, English, Math, Science, Art, and Business. Football was the favorite extra-curriculum activity in high school, with basketball a close second. Other activities,

from most favorite to less favorite were choir, playing a musical instrument, running track, drawing, and art classes. Also mentioned with single listings were church choir, Sunday school, wood workshop, gym classes, theatre, tennis, writing classes, fraternity, soccer, and band.

## VII. Initial Entrepreneurial Experiences

It is important to note that many of the entrepreneurial experiences highlighted in this study could, and often did, begin while the respondents were quite young. This is why it was not unusual for some respondents to have begun their initial entrepreneurial experiences as early as six (2) and eight (4) years old. The activities engaged in at these early ages were confined to newspaper home deliveries and the use of bicycles and wagons to deliver items from grocery stores to the homes of store customers. Other entrepreneurial activities respondents engaged in when they were relatively young were shining shoes, raking leaves, and yard work. For the two women respondents, babysitting at an early age for family members, church members, and neighbors would be their first venture into the world of work. Though the above respondents were early entrepreneurial starters, most respondents began their activities between the ages of ten and eighteen. Included in this list are respondents who also delivered newspapers, shined shoes, delivered groceries for store customers, and did yard and landscape work.

### *Working as Teenagers*

The age in which respondents began entrepreneurial work at young ages may also represent the types of work engaged in as teens. The difference is the freedom of the teenagers versus the limited freedom of the child worker who enters the work world doing one specific thing, like shining shoes on the corner, delivering groceries for customers living two to three blocks from a grocery store. The child worker who becomes a teen worker now has more options and more freedom to move from locality to locality and from one job to another, or from several jobs simultaneously. This point was emphasized by many respondents when asked about employment as teenagers. Indeed, their work as teenagers was often an extension of their first entrepreneurial experiences. Only one respondent did not work while a teen. Most respondents had multiple jobs, often simultaneously. There were many isolated jobs listed by respondents, but there was also employment opportunities connected to what many had been doing during their early entrepreneurial experiences. For example, five respondents continued to shine shoes, along with other work, five respondents continued to have newspaper routes, and five respondents continued to engage in lawn work and landscaping. Other types of employment included working as cooks, waiters, custodians, and clerks in grocery and clothing stores.

## VIII. Current Entrepreneurial Activities

Respondents engaged in a variety of entrepreneurial activities, and as was true of many when they held multiple jobs as teens. For example, the respondent who organized the painting and cleaning crew also operated a small flea market and thrift shop on weekends. There was also the entrepreneur who advertised for sewing projects, i.e., designing and sewing shirts and jackets, and dresses, who also worked for an hourly fee, for a local dry- cleaning establishment, hemming

and sewing trousers, skirts, and men and women's suits. Examples like these made it clear that many of the respondents in this study were multi-talented and were therefore able to move in and out of a variety of entrepreneurial activities and interests. The central theme in the activities was the quest for independence and the pursuit of an area of interest that was tied to an earlier dream or aspiration. The organizer and owner of the lawn and landscape group, the organizers and owners of the painting and cleaning group, the tailor who organized the sewing unit, and the barbers who not only owned the one-man barbershop, but who also advertised his business as he rode through communities on his bike, and would give a quick haircut to a customer upon request.

The multiple entrepreneurial activities represent not only the flexibility within the entrepreneurial world. It also depicts a work world for Black Americans where, given racial discrimination and restrictions, it pays to be multi-dimensional workwise. Such is the case with the custodian who works as a barber on the evening and operates a small thrift shop on weekends. In addition, a few small entrepreneurs who once operated businesses from their homes have been able to rent small spaces for their businesses, for example the tailor and hair weaver, and small book publisher.

Most respondents in this study owned their businesses, and a few informed the interviewer that they were the presidents of their small companies. Also important is the fact that most respondents had a relative or spouse working in the business. These were the family members employed: Four wives, six sons, two daughters, one father, one mother, three sisters, one brother, and three cousins. The jobs included bookkeepers, accountants, and financial assistants.

When asked if they would choose the same entrepreneurial activity if they had to start over again, most respondents would not. That answer is not a total surprise, after all, in the works by Weber, Collins and Moore, and Schumpeter, cited earlier, a central theme in all their works is the entrepreneur as an adventurer and a chance-taker, loving a challenge. The adventurer and chance-taker, having experienced one line of work, now seeks an opportunity to do and experience something different, unique, and more challenging. Here is the breakdown:

a. Teaching

Most responded to the question by listing "becoming a teacher". Some listed a desire to teach history, science, geography, computer science, social science, working within Virginia's educational department system, and teaching in the Virginia state museum system.

b. Computers

Others expressed an interest in working on computers, working on advanced technological systems, smart energy computer systems, creating an internet-based business, and becoming a senior programmer.

c. Religious Work

Some respondents who chose religious work as a desired field wanted to become spiritual leaders to address hunger, poverty, and inequality; others wanted to use religion to address constitutional, national, and state laws.

d. Assorted Choices

Those not currently in these areas of work chose the following: military career, banking, welding, operating a restaurant, real estate, community agency to address alcoholism, drug use, major league baseball, and crime in the Black community.

IX. Current community involvement

Most respondents were actively involved in community affairs, and local religious affiliations and involvements headed the list.

a. Religion

Many respondents were involved in groups operating within churches. These included working with teen groups such as “Who Am I” and “Created in His Image,” offices held in churches, Christian Business Institute, Religious Outreach, and church-sponsored Women in Prison Group.

b. Social and Civic Groups

These groups included fraternities, sororities, civic associations, merchant’s associations, NAACP, Urban League, National Business League, Masonic Lodge, community and neighborhood watch, History Lecture Group, and 100 Black Men.

c. Community Groups

These groups included Programs for those with Substance Abuse, Transitional Housing for Women with Children, and The Organization for Single-Parent Women-Headed Households.

X. Are racial problems in the United States solvable?

In this section respondents were asked to discuss the question of whether the racial problems in the United States were solvable. In response, eight responded, yes, fifteen responded, no, and three responded, maybe. This is a crucial question, since most respondents were born and spent their formative years in the South, only three having been born and spending their early formative years in the North. The follow-up questions were, if yes, why, and if no, why?

a. The Racial Problem is Solvable.
1. Eventually color will disappear as an object of discrimination.
2. A new generation of whites with different backgrounds will change race relations in a more positive direction.
3. We seem to be making progress, although slow, but it’s a good sign.
4. Racial division is not as bad as it was in the past. Relations will improve.
5. The rich and educated whites will eventually move beyond color
6. Most of the racial hatred is gone, and the racism of the past will never return

7. Race relations are better, but the media spin makes it seem worse
8. Yes, but not in my lifetime

b. The Racial Problem is not Solvable.
1. Many whites refuse to change their racial views passed down to them
2. Whites will always hate, older whites teach younger whites to hate
3. Whites will never accept Black people
4. Racism is too ingrained in the American culture.
5. Whites are unwilling to share power in the U.S.
6. Equality means power sharing, and whites will never do that.
7. Race and skin color are weapons to maintain power in America.
8. Whites have power and they're not going to share that with another race
9. Racism shows a lack of Godliness. Whites have racial greed
10. Whites won't give up racism, because they have a need to feel racially superior.

c. Maybe
1. Racism will be solved when people have Christ in their hearts, only then are we able to move from the flesh to the spirit and place the love of God in our hearts.

XI. While growing up, was your community integrated, or segregated? In either situation, did it help, or hurt, your social and economic life?

The last two questions in the survey inquired whether respondents were raised in segregated or integrated communities, and whether either of those situations helped, or hindered, their social and economic life. Twenty- three of the twenty-six respondents were born in the segregated South, whereas three were born in the North. One respondent born and raised in the North indicated that being born and raised in an integrated community had no effect on him. The other two, born in the North indicated that it helped them. One replied that an integrated community gave him an early exposure to different people and different cultures, and in addition, made it possible for him to see positive role models and realize the importance of hard work and determination in achieving social and economic success. Two respondents born and raised in the South also indicated that segregation helped them, a point we will discuss later.

Seven respondents born in a segregated community replied that segregation had no impact on their social and economic life, and three respondents born in the South replied that they did not know if there was an impact. Ten respondents, born and raised in the South, indicated that segregation did hurt, or harm, them. Those asserting the positive view of segregation, while not necessarily supporting segregation, surmised that, as one said, "segregation made me want to do better. It made me more determined to do well and learn all that I could."

"Segregation made me stronger, I had to stay focus, it made me plan better for my future."

"Segregation made me more determined to succeed, despite the odds."

“My friends and I knew we had to struggle to succeed in a segregated world, so we tried to prepare ourselves.”

“Segregation strengthened my will to succeed and made me look for viable options in the community.”

“Segregation taught me one lesson I continue to keep: Never give up the struggle to realize your dream.”

For the ten respondents who indicated that segregation hurt them socially and economically, they responded could be summarized with these words:

“Segregation held us back. It affected our education and work experiences and closed the doors to many opportunities white guys had.”

“Segregation made us start late and prevented us from starting the race on an equal footing with whites.”

“Segregation slowed our education and made us waste a lot of time playing ‘catch-up’.”

“Segregation made me doubt myself and question whether I could succeed, or whether I was good enough to succeed.”

“Segregation killed the opportunity structure for Black people, and made it much more difficult to succeed, or to achieve.”

While acknowledging the negative impact of segregation, some respondents cited how the Black community helped, and saved, them during the era of segregation:

“Segregation often had little impact on many of us, because we were in our own world: our churches, segregated schools, and segregated community and cultural affairs. We really didn’t think very much about white people, and when we did, we just thought they were mean people who thought they were better than other people.”

“Growing up, I only interacted with Black people and the Black community. They gave me a healthy view of life and living.”

“I attended segregated schools, but I was largely educated in the segregated world of Black institutions and businesses-the barber shops, funeral parlors, candy stores, and small Black grocery stores. They all gave me a living and practical education.”

*Entrepreneurs tell their stories of becoming young entrepreneurs*

“I was eight when I started delivering the morning newspaper for my block, even though the rule was that you had to be twelve to deliver paper. I continued to deliver the newspaper in high school, and because my grades were so poor, my grandmother convinced me to attend evening vocational ed classes, which I did after attending regular classes during the day. I took courses in auto mechanics, and stayed with that awhile, then later became a route manager for the local newspaper and organized a crew to deliver batches of newspapers throughout the city.”

“I became a young barber entrepreneur when I was fourteen years old. A distant relative trained me. But I was also engaged in other entrepreneurial activities like landscaping, selling clothes, and jewelry. I have been cutting hair professionally, since I was seventeen.”

“I am an events planner and organizer. It all began when I was sixteen, and I convinced my mother, my parents divorced, to allow me to have a party at our house. She did, and I made cookies, and two cakes, and served punch, and charged a quarter for those who came. We played music and had a good time. That experience drew my interest in becoming an events organizer and planner, which is my business.”

“I started working when I was eight years old, helping my dad clean churches in the evening during the week after attending elementary school during the day. He paid me for helping him. Then during weekends, he would mow the lawn for his customers, and I would help him. Then when I was twelve, I began delivering newspapers in the community and had to get up at 5am to deliver the papers before heading off to school. I did that for three years. Then in high school, after classes, I worked part-time in the kitchen at the Medical College of Virginia. When I wasn’t working, I was taking classes in electrical work and computer education at the Richmond Tech Center. Later, I took vocational classes in wielding and construction work. All my friends asked me why I was tormenting myself by taking all of these classes. I told them I liked money, and to have money you have to possess many skills. Acquiring skills require hard work, and I was willing to work hard to get what I wanted. I grew up in segregation, and I didn’t like it, but it didn’t bother me much, because I was trying to get what I needed to help myself. I am currently a board- certified electrician and I have a work crew of three other board-certified electricians assisting me.”

“I began lawn work and landscaping because my stepfather was doing it, and when I became sixteen, I began working with him throughout high school. After finishing high school and working for Phillip Morris, I put together a lawn and landscaping crew like my stepfather had done, and we worked on weekends. I’ve been doing this now for twenty years.”

“I was six years old when my grandfather began taking me to the small jewelry store, he owned, and I watched him deal with customers, blacks and whites. When grandfather died my father inherited the business. Later, my father died, and I inherited the business when I was thirty years old. We went through hard times, and to help pay the rent for the business, I drove cabs and became a custodian at the Federal Reserve Bank building where I cleaned toilets. I did what was necessary to keep the business, and we succeed.”

“My father was a bricklayer, and I went to vocational classes in high school and became a bricklayer. After my high school graduation, I worked on many jobs, but I decided to organize a crew of bricklayers which I have today. Along with that, I also have a lawn improvement crew.”

“I was raised by my grandmother until I was nine. That’s when I started shining shoes. Then when I was thirteen, an uncle who was a tailor got me interested in sewing. Although I shoveled snow, had a paper route, caddied, and did custodial work as a teen, my heart was attached to

sewing, and at a young age I began to make shirts, blouses, and dashikis, etc. Sewing has been the center of my life since I was a teenager. I've had my small tailor shop for more than fifteen years."

"I began to work as a shoe cobbler when I was eighteen years old and worked in a Jewish shoe repair shop. I worked in the shop for ten years, but on the side, I worked as a brick layer and also as a auto transmission repairman. I held down these jobs at the same time, because I needed to make enough money to open my own shoe repair shop. I was able to open my own shoe repair shop when I was forty years old."

Discussion

This article focuses on the patterns of socializations among a small sample of Black Urban Entrepreneurs in Richmond, Virginia. As stated in the introduction, this study sought to capture and depict the process of socialization among small entrepreneurs, or entrepreneurs who provided services that were confined to local everyday needs of the local population. For this reason, the study was not interested in entrepreneurs who established large banks, insurance companies, electronic companies, or mega companies. Instead, we wanted to explore the world of those who provided the everyday needs of a population: the lawn and landscape companies, the local paint crews, thrift shops, small barber shops, tailor and shoe shops, brick layer and construction crews, and event and party planners.

When we read the entrepreneur's narratives on becoming entrepreneurs as such young ages, Bandura's (1971) social learning theory is clearly demonstrated in these narratives. The success stories depicted in this study clearly demonstrate that the entrepreneurial work by respondents fulfilled needs crucial to the communities in which they resided. This study also supports assumptions germane to the theories of entrepreneurship exemplified in the early studies of the entrepreneur by Weber (1922, 1930) and Schumpeter (1934, 2017), and more recent studies by McClelland (1953, 1961, 1969) and Collins and Moore (1964).

The above theories and principles of entrepreneurship hold just as true for Black urban entrepreneurs as they do for entrepreneurs in general, except for the intense and deeply structured racial and color lines in the United States which must be factored in when analyzing the American scene. To understand racial legacy, it is important to read Booker T. Washington's The Negro in Business (1907) that outlined some of the obstacles confronting early-to-late nineteen century and early-twentieth century Black entrepreneurs. To get an in-depth picture of the successes and failures of contemporary Black entrepreneurs, we turn to recent works from which we get in-depth critiques and analyses of entrepreneurs and entrepreneurship from John Sibley Butler (1991), Michael Woodward (1998), Butler and Kozmetsky (2004), and the biography of Reginald F. Lewis (1995). Earlier Anne Roe's The Making of a Scientist (1952) was cited, because so many features of becoming a scientist were just as evident and relevant in the making of Black entrepreneurs.

This study illustrates the fact that certain people are motivated to pursue their passions even in circumstances where, due to racial discrimination, which greatly restrict their options. This study illustrated the fact that there were triple, double, and single dimensions of this restriction, for as a few respondents noted, this racial restriction was multi-generational, affecting grandparents, parents, and respondents. What is clear and evident, and this clarity is seen more keenly in the brief quotes by respondents towards the end of this paper, is the fact that structured barriers, whether weak or strong, cannot, in the end, totally inhibit, destroy, or kill, the dreams and personal desires, individuals have incorporated as defining and representing their sense of self- who they currently are, and who they, in their dreams, wish to be.

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# Preventing Suicide in Today's Schools

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Because children and adolescents during the school year are under the supervision of school personnel, understanding the warning signs of possible suicide can be essential in getting students the help they need.

Some characteristics that can be predictors of possible suicide include mental health, such as depression, conduct disorders, and substance abuse. School personnel might be aware of students who have these issues.

In addition, school counselors can administer a rating scale such as the Columbia Suicide Severity Rating Scale to help assess whether a student might be at risk for suicide. This scale is easy to use and does not require mental health training.

Other factors which might be considered include access to a firearm, history of trauma or abuse, lack of parental support, or loss of a relationship.

For students who are considered at risk, a school counselor might be given a list of at-risk students so further assessment and intervention can take place.

The counselor might contact the students' teachers to request further information about their classroom engagement. They can ask questions regarding the student's attendance, engagement in classroom activities, relationships with other students, and completion of assignments.

The school counselor, based on background information and the teacher's responses, can plan small-group and individual counseling sessions. These sessions can focus on stress management, problem-solving, family relationships, working with other students, bullying, and social relationships.

The school counselor should contact parents and/or guardians to discuss concerns about information obtained from school resources. A list of community resources, including agencies, psychologists, and mental health practitioners, can be provided to offer additional support.

One of the first things a school counselor can do is provide Tier 1 intervention in the classroom. This is provided for the entire class and focuses on social and emotional learning. This can occur each week and focuses on topics such as getting along with others and resolving problems.

For students who have been identified as having the warning signs of suicide, Tier 2, or small group interventions might focus on substance abuse, anger management, or parental divorce. This group might be appropriate for students who have post-traumatic stress disorder, depression, or anxiety.

For students who have most of the suicidal warning signs, Tier 3 and individual therapy might be most appropriate. The counselor can provide daily or weekly counseling, work on specific behavior plans, and collaborate with outside agencies.

For students who might be receiving Tier 3 interventions, working with the counselor to design a safety plan will help those students know when they are experiencing a suicidal crisis.

The Stanley Brown Safety Intervention plan is one example. It includes the following information: what are the warning signs you feel when you are at risk of suicide, what can you do to deal with these feelings, who you can contact, including professionals, family, or friends, if you feel this way.

It is important that teachers, parents, and counselors build students' resilience. In addition to having weekly sessions with students and their families, schools can help students feel part of a social network.

A teacher can place a student with a partner in the classroom to work on assignments and projects together. By assigning each person responsibility for contributing to the project, students can begin to have someone they can get to know and depend on to complete their school assignments.

A coach can get students involved in school sports, and music and art teachers can involve students in projects in progress or being performed. By getting to know at-risk students and their interests and talents, they can become part of the school community.

Mindfulness meditation can be taught to all students, to those in small groups or individually, to improve their emotional regulation, interpersonal relationships, and reduce self-harm behaviors. This can occur at school and be conducted by a teacher or counselor at the start of the day or when issues arise during the day.

Conflicts that may arise during the school day can serve as opportunities to apply the strategies that students have been working on.

Suicidal ideation is a serious issue with young people. However, early intervention provided through schools can prevent suicidal behavior. By teaching teachers, counselors, and parents about the warning signs and how to connect with students, suicide can be prevented.

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# From Personal to Pedagogical: How Faculty Modeling Influences Pre-Service Teachers' AI Literacy Development in Teacher Preparation Programs

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## ABSTRACT

Teacher preparation programs face a specific and underexamined problem: their students arrive already using AI, often fluently, but without the pedagogical frameworks to translate that personal fluency into responsible classroom practice. This study examines whether, and how, faculty modeling bridges that gap. This cross-sectional mixed-methods study (n=75) investigated how exposure to faculty-modeled AI instruction influences pre-service teachers' AI sophistication, confidence, and classroom integration intentions at a regional university. Participants completed a 20-question survey examining current AI usage, educational experiences, and future teaching plans. Qualitative responses were coded using a novel AI Sophistication Scale (0–5). Students with AI-integrated coursework demonstrated significantly higher pedagogical sophistication than peers without it, and program year alone did not explain the difference. Most students are mid-transition: comfortable using AI personally, beginning to imagine instructional applications, but not yet reasoning at the level teaching with AI requires. Notably, students expressing the most nuanced concerns about academic integrity and over-dependence were also the most pedagogically sophisticated, suggesting that critical worry about AI may itself be a marker of developing literacy rather than a barrier to it.

**Keywords:** artificial intelligence, teacher preparation, faculty modeling, instructional technology, pedagogical content knowledge, technology integration

## INTRODUCTION

### The AI Imperative in Teacher Education

While global headlines in late 2022 focused on ChatGPT reaching 100 million users in two months (Hu, 2023; Reuters, 2023), our faculty conversations were focused on something more immediate: pre-service teachers were arriving in methods courses with AI-generated lesson plans, accommodation lists, and behavior management strategies, often before we had introduced the technology, and sometimes before we had decided how to. The question was no longer whether our students were using AI. It was whether we had any role in shaping how. That question is not unique to our program. A recent survey found that 89% of college students had used ChatGPT for coursework, with 48% using it to complete assignments (Intelligent.com, 2023), suggesting that teacher educators across institutional contexts are navigating the same gap between students' personal AI fluency and their readiness to use it responsibly in a classroom.

### The Role of Faculty Modeling

Research on teacher preparation consistently demonstrates that pre-service teachers learn professional practices through observing and modeling the behaviors of teacher educators (Lunenberg et al., 2007; Loughran, 2006). Rooted in Bandura's (1977) social learning theory, this suggests that faculty practices constitute a "hidden curriculum" shaping pre-service teachers' beliefs, attitudes, and instructional approaches (Zeichner, 2005). When faculty integrate technology effectively in their own teaching, pre-service teachers are more likely to adopt similar practices in their future classrooms (Tondeur et al., 2012). However, no one has yet asked whether faculty AI modeling shapes how pre-service teachers reason about their own future practice, which is where this study begins.

## Theoretical Framework

Three frameworks inform how we interpret what faculty modeling can and cannot do in a program like ours. Bandura's (1977) social learning theory is where we start, not because it's required framing but because it describes something we watch happen in our own classrooms: pre-service teachers learn professional practice less from what we tell them than from what they see us do. In a small regional program where students often take courses with the same faculty across multiple semesters, that observational relationship is unusually sustained, which cuts both ways. What faculty model consistently, students absorb consistently; what faculty model carelessly, students absorb that too.

TPACK (Mishra & Koehler, 2006) specifies what sophisticated AI use actually requires: not technical familiarity alone, but the integration of technological knowledge with pedagogical judgment and content expertise. This distinction became visible to us most clearly in methods courses, where students who arrived confident with AI tools still struggled to articulate why a particular AI-generated activity was or wasn't appropriate for a specific grade level or learning objective. Fluency and judgment, it turns out, are different things.

Communities of practice (Lave & Wenger, 1991) get at something harder to quantify: in a small program, faculty don't just teach students what to do with AI. They establish, over time, what responsible AI use looks like as a professional norm, what counts as acceptable, what warrants skepticism, and what requires disclosure. When students name specific faculty in their open-ended responses, as several did here, they are not just crediting instruction. They are describing the process by which professional norms get transmitted in a community small enough that the transmission is visible.

## Purpose and Research Questions

This study investigates how faculty modeling of AI use influences pre-service teachers' instructional AI literacy development at a regional university. The following research questions guided the study:

RQ1: How does exposure to AI-integrated coursework influence pre-service teachers' AI sophistication levels?

RQ2: What is the relationship between program progression and instructional AI literacy development?

RQ3: How do pre-service teachers' current AI uses differ from their planned instructional applications?

RQ4: What concerns do pre-service teachers express about AI's impact on education and student learning?

## LITERATURE REVIEW

### AI in K-12 Education: Current State

AI adoption in educational contexts has accelerated faster than policy or preparation has been able to keep pace with. Educators commonly raise concerns about academic honesty, plagiarism, and the risk that AI could reduce opportunities for students to think deeply and critically (Sullivan et al., 2023; Kasneci et al., 2023), yet educational AI policy remains inconsistent, with some institutions banning AI tools and others promoting their integration. As a result, pre-service teachers receive uneven preparation, and research on how to develop instructional AI literacy rather than simple AI awareness is still limited (Celik et al., 2023).

### Technology Integration in Teacher Preparation: Historical Lessons

The history of technology integration in teacher preparation is, at this point, a long series of the same lessons learned repeatedly. Since the 1980s, research consistently identifies a gap between teacher comfort with technology and effective pedagogical integration (Ertmer & Ottenbreit-Leftwich, 2020). The TPACK framework addressed this gap by recognizing that technological knowledge must intersect with both pedagogical and content knowledge for effective teaching (Mishra & Koehler, 2006). Research shows that pre-service teachers are more likely to learn how to use technology effectively when their instructors model it well (Tondeur et al., 2012; Banas & York, 2014). Barriers, including insufficient training, limited institutional support, and faculty skepticism, have persisted across successive technology waves (Ertmer & Ottenbreit-Leftwich, 2020), suggesting that similar obstacles will challenge AI integration.

### Faculty Modeling in Teacher Preparation

Loughran (2006) described the concept of "teaching about teaching," which involves intentionally making pedagogical thinking visible during instruction. When faculty model practices explicitly, explaining their reasoning and demonstrating professional judgment, pre-service teachers gain access to the underlying knowledge that is typically invisible in classroom observations alone. Empirical research has documented the impact of faculty modeling across several areas. Tondeur et al. (2012) found that when faculty modeled technology integration, it predicted growth in pre-service teachers' TPACK. Zeichner (2005) similarly showed that modeling reflective practice supported the development of pre-service teachers' critical reflection skills. What effective modeling requires, then, is not simply doing something visible

but doing it transparently enough that the reasoning behind it is accessible to observers, making the judgment, not just the action, available for appropriation. Whether faculty are providing that kind of deliberate, reasoned AI modeling, and whether it shapes how pre-service teachers think about their own future practice, remains an open empirical question.

### AI Literacy: Frameworks and Assessment

Long and Magerko (2020) defined AI literacy as a set of competencies enabling individuals to critically evaluate AI technologies, communicate and collaborate with AI, and use AI as a tool in everyday life. Holmes et al. (2023) outlined three levels of AI literacy in educational contexts: understanding what AI is and how it works; applying AI tools to educational tasks; and critically evaluating AI's educational implications. Assessing AI literacy presents methodological challenges, as self-report measures may not capture actual competencies, and standardized assessments remain underdeveloped. The present study introduces the AI Sophistication Scale to address this measurement gap by capturing the qualitative depth of pedagogical thinking about AI integration.

### Research Gaps

What remains largely unexamined is whether any of this happens by design or by accident, whether the pre-service teachers who develop sophisticated, ethical approaches to AI do so because their programs intentionally cultivated that development, or simply because they happened to encounter the right faculty at the right moment. That question is what this study takes up.

## METHOD

### Research Design

This study employed a cross-sectional mixed-methods design, combining quantitative survey data with qualitative response coding to examine how faculty modeling influences pre-service teachers' AI literacy development. The convergent parallel design (Creswell & Plano Clark, 2017) collected and analyzed quantitative and qualitative data concurrently, then integrated findings for interpretation. This design was appropriate for exploring a complex phenomenon where neither purely quantitative nor purely qualitative approaches would adequately capture multiple dimensions of AI literacy development.

### Setting and Participants

The study was conducted at a regional university in the southeastern United States with a predominantly undergraduate teacher education program serving approximately 247 undergraduate education majors. The program spans four years, with early coursework in foundational education and later coursework in methods and field experiences. Data collection occurred over two weeks in Fall 2025 across multiple course sections spanning all four program years.

The final sample consisted of n=75 pre-service teachers: first-year (n=17, 23%), second-year (n=11, 15%), third-year (n=21, 28%), and fourth-year (n=26, 35%). The sample was predominantly female (89%), reflecting broader demographics in elementary education programs. Participants were distributed across elementary education (67%), secondary education (20%), and special education (13%) concentrations. The response rate was approximately 30% of eligible students, typical for voluntary online surveys.

**Instrumentation: AI Usage Survey for Education Majors**

The AI Usage Survey for Education Majors was developed specifically for this study, drawing on existing AI literacy frameworks and technology integration literature. The 20-item survey included six sections: (1) demographics, (2) current AI usage patterns, (3) AI education and training experiences, (4) future teaching perspectives, (5) professional development needs, and (6) open-ended questions. Validity was supported by alignment with TPACK and AI literacy frameworks, review by two external teacher education faculty, and pilot testing with 8 education majors. The survey was administered anonymously through Qualtrics, with faculty leaving classrooms during administration to minimize social desirability pressure.

**AI Sophistication Scale**

A novel AI Sophistication Scale (0–5) was developed to code qualitative responses to the question: "Describe how you have used or plan to use AI in educational settings." The scale captures depth of pedagogical thinking about AI integration:

Level 0 – No Response: No answer provided.

Level 1 – Surface Awareness: Acknowledges AI exists but describes no use.

Level 2 – Personal/Academic Use: Describes personal or academic AI use without instructional application.

Level 3 – Basic Instructional Application: Describes using AI for teaching tasks (lesson plans, activities) without deeper pedagogical reasoning.

Level 4 – Pedagogically Sophisticated: Demonstrates pedagogical reasoning—attention to differentiation, learning theory, student needs, or specific learning objectives.

Level 5 – Critically Reflective: Combines pedagogical sophistication with critical evaluation of AI outputs, explicit ethical awareness, and iterative human-AI collaboration.

Two raters independently coded all 75 responses; inter-rater reliability was strong (Cohen's $\kappa$=.81). Disagreements were resolved through discussion.

**Data Analysis**

Quantitative data were analyzed using SPSS 28. Descriptive statistics summarized the data, and statistical tests, including independent samples t-tests, one-way ANOVA, chi-square analyses,

Pearson correlations, and multiple linear regression, were used to examine group differences, relationships among variables, and predictors of key outcomes. Qualitative data were analyzed using the AI Sophistication Scale and thematic analysis of open-ended responses in NVivo 12 to identify patterns and recurring themes. The two data strands were then integrated by comparing convergent findings, organizing results into joint displays, and converting qualitative sophistication ratings into numerical variables so they could be analyzed alongside the quantitative data.

## RESULTS

### RQ1: Influence of AI-Integrated Coursework on Sophistication

Of the 75 participants, 60% (n=45) reported learning about AI in at least one course; 19% (n=14) had not; and 21% (n=16) were unsure. Students who learned about AI demonstrated significantly higher mean sophistication scores (M=2.95, SD=1.08) compared to those who had not or were unsure (M=2.20, SD=1.06), $t(59)=2.53$, $p=.014$, Cohen's $d=0.70$ (medium-large effect). Among students with AI coursework, 29% achieved high sophistication (Levels 4–5) compared to only 13% without AI coursework, $\chi^2(2, N=61)=7.48$, $p=.024$, Cramér's $V=.35$ (n=14 excluded due to missing sophistication scores). Multiple regression predicting sophistication from program year, AI education exposure, and usage frequency ($R^2=.22$, $F(3,57)=5.42$, $p=.002$) revealed that AI education exposure was the strongest predictor ($\beta=.34$, $p=.014$), not program year alone.

Qualitative responses revealed three themes supporting faculty modeling effects. First, students provided explicit faculty attribution, naming instructors directly: "definitely any class with Abbie, Lauren, or Aubrey" (Student 41) and "Classes with Miss Aubrey and Miss Lauren" (Student 23). Second, assignment-driven learning was evident, with students describing specific tasks designed to develop critical evaluation:

"In learning, I completed an assignment in which I asked AI for 10 accommodations and 10 modifications, but multiple examples were incorrect. We then had to evaluate why they are incorrect." (Student 39, Senior, Level 5)

Third, internalized ethical frameworks appeared in high-sophistication responses: "I do not copy them from the AI" (Student 3) and "get the wheels moving, not to copy and paste and you're done kind of situation" (Student 23). These frameworks likely reflect taught rather than self-discovered understanding.

### RQ2: Program Progression and AI Literacy Development

Sophistication scores showed a general upward trend across program years: first-year (M=2.29), second-year (M=2.56), third-year (M=2.88), and fourth-year (M=2.95). One-way ANOVA approached but did not reach significance, $F(3,57)=2.08$, $p=.113$, $\eta^2p=.10$. Collapsing into Early (Years 1–2) and Advanced (Years 3–4) groups revealed a meaningful difference: advanced students (M=2.91, SD=1.09) versus early students (M=2.43, SD=1.11), $t(59)=1.74$, $p=.088$, $d=0.44$. Program year correlated positively with sophistication, $r(59)=.26$, $p=.045$, and

confidence in teaching AI responsibly improved from first year (M=3.14) to the fourth year (M=2.58) (on a 5-point scale where lower scores indicate greater confidence), $F(3,71)=2.76$, $p=.048$. Regression analysis showed that program year was not a significant independent predictor when controlling for AI education exposure ($\beta=.15$, $p=.241$), suggesting that development operates largely through coursework experiences rather than time alone.

Qualitatively, advanced students used more pedagogical vocabulary ("differentiate," "prior knowledge," "standards alignment"), described iterative processes with AI as starting points rather than final products, and articulated clearer ethical boundaries. All four Level 5 respondents were juniors or seniors.

**RQ3: Personal vs. Planned Instructional AI Applications**

Current AI uses were dominated by personal/academic applications: brainstorming ideas (85%), writing assistance (77%), and research (64%). The top instructional current use was creating lesson plans (56%). Planned future teaching uses shifted toward pedagogical applications: creating educational materials (83%), lesson planning (79%), assessment creation (45%), and personalized learning (44%). Only 1% did not plan to use AI in teaching.

A paired samples t-test comparing composite scores summing current personal/academic uses versus planned instructional applications (each derived by summing the relevant binary-coded survey items and standardizing to a common scale) confirmed a significant personal-to-pedagogical shift, $t(72)=4.36$, $p<.001$, $d=0.54$. Instructional AI application score positively predicted the likelihood to use AI in teaching, $r(73)=.47$, $p<.001$. The AI Sophistication Scale distribution reflected this transition: 21% at Level 2 (personal use), 44% at Level 3 (basic instructional), and 21% at Levels 4–5 (sophisticated pedagogical); the remaining 14% were at Levels 0–1 (no response or surface awareness only), reflecting participants who did not complete the open-ended item, indicating that most students are mid-transition.

**RQ4: Pre-Service Teacher Concerns About AI**

Q7 revealed widespread concerns: academic integrity/plagiarism (85%), over-dependence (66%), reduced critical thinking (51%), job displacement fears (38%), accuracy and misinformation (34%), and loss of creativity (31%). A striking gap emerged between personal comfort (M=2.03 on a 5-point scale, higher = less comfortable) and confidence in teaching AI responsibly (M=2.80), representing a 32-point gap in adequacy ratings.

Thematic analysis of Q18 open-ended responses identified four concern themes. Over-dependence and loss of independent thinking (47% of responses) was the most prominent, with students worried that students who rely on AI for answers will lack fundamental understanding. Academic integrity (28%) expressed concerns that AI tools blur the line between legitimate assistance and plagiarism, with many questioning where to draw boundaries. Accuracy and misinformation (9%) noted that AI-generated content may be incorrect and that students may trust it uncritically. Teacher and faculty over-reliance (6%) expressed a particularly insightful metacognitive concern:

"Support would be for teachers to not use AI to grade or make lessons themselves and then expect us to not learn from their lead." (Student 33)

Notably absent from responses were blanket rejections of AI. No students expressed technophobia or advocated for AI prohibition, suggesting critical rather than resistant adoption.

## DISCUSSION

### Summary of Key Findings

The data confirm something our faculty team had suspected but couldn't previously demonstrate: that pedagogical sophistication around AI doesn't accumulate passively with time in a program. It seems to require what Student 39's response captured so precisely — a specific friction point where AI visibly fails and students are asked to figure out why. That distinction, between using AI and interrogating it, appears to be where development actually happens. Students who encountered AI in their coursework did not just know more about it; they reasoned about it differently, using pedagogical vocabulary and ethical framing that their peers without that exposure largely did not. That difference was not simply a function of time in the program. Senior students who had not encountered structured AI instruction looked more like freshmen who had than like seniors who had. This is a finding that complicates any assumption that professional socialization alone produces AI literacy.

What the data also reveal is that being mid-transition is not a failure state; it is where most professional learning lives. The question for programs is not how to accelerate students past uncertainty but how to make the uncertainty productive. The 22.6% reaching Levels 4–5 is an encouraging signal. The 44% clustered at Level 3, describing instructional uses without the underlying pedagogical reasoning, is the more pressing finding for curriculum design.

### Interpretation Through Theoretical Lenses

Social learning theory predicts that modeling works when learners can attend to, retain, reproduce, and find motivation in what they observe, but frameworks rarely map this cleanly onto data. What surprised us here was the specificity of student recall. Students did not describe vague impressions of faculty 'using AI'; they named us, named assignments, and in several cases reconstructed the pedagogical logic of what we had asked them to do. Student 39's description of the accommodation/modification exercise, finding the AI's errors, then explaining why they were wrong, captures something closer to Loughran's (2006) 'teaching about teaching' than simple exposure. The modeling that appears to have mattered was not incidental; it was designed to be visible and critical.

Student 33's observation cuts even deeper. The concern that faculty who use AI to grade and plan lessons cannot credibly ask students not to follow their lead reflects an understanding of the hidden curriculum that most educational theory attributes to advanced professional development, not to undergraduates. That this kind of metacognitive awareness emerged in open-ended

responses, unprompted, suggests that at least some students are already operating as critical observers of faculty practice, not just recipients of it.

The TPACK framework helps explain why AI coursework, rather than program year, was the stronger predictor of sophistication. Technical familiarity with AI tools (technological knowledge) appears widespread regardless of year; what coursework added was the intersection with pedagogical reasoning. Students at Level 5 were not simply more experienced with AI; they were asking different questions about it — not 'what can AI generate?' but 'what should I do with what it generates, given what I know about this student, this standard, this learning goal?' That shift from consumption to judgment is precisely what TPACK describes as the integration of technological and pedagogical knowledge, and it did not appear to develop on its own.

Through communities of practice, the study reveals how teacher preparation programs socialize pre-service teachers into professional AI use norms. The explicit faculty attributions, course-specific references, and internalized ethical boundaries ("morally correct things") suggest that students are becoming legitimate participants in a professional community where AI use standards are negotiated and transmitted. Whether those norms persist into early teaching careers is a question this cross-sectional design cannot answer, but the internalization evident in student responses suggests that the socialization process is already underway within the program. Students were not describing rules they had memorized; they were articulating principles they appeared to have made their own.

**Connections to Existing Literature**

The medium-to-large effect (d=0.70) of AI coursework on sophistication aligns with what Tondeur et al. (2012) found for TPACK development through faculty modeling — though our setting lets us see the mechanism more directly than most studies can. Because students in a small program take courses with a limited number of faculty over multiple years, the modeling effect is less diffuse than it would be in a larger institution. Whether that concentration amplifies the effect, or simply makes it easier to detect, is a question worth examining in multi-site replication.

One finding does complicate the existing literature rather than simply confirming it. Academic integrity concerns and critical thinking worries have been framed primarily as barriers to AI adoption (Sullivan et al., 2023; Kasneci et al., 2023), obstacles to be managed or reduced. Our data suggest the opposite may be true: the students most worried about these issues were also the most pedagogically sophisticated. If that holds, it reframes the goal of AI preparation. The aim isn't to reduce anxiety about AI. It's to develop the kind of informed, specific anxiety that comes from actually understanding what's at stake.

**Novel Contributions**

Two findings here seem particularly worth carrying forward. The first is methodological: the AI Sophistication Scale demonstrated acceptable inter-rater reliability and captured meaningful variance that self-report measures of AI use or comfort would have missed. Whether it holds up

across institutions and student populations remains to be tested, but it addresses a real measurement gap in a field that has struggled to move beyond yes/no AI use questions. Capturing the distinction between anxious resistance and informed critical awareness required a measure sensitive enough to detect it, and that is precisely what scale-level sophistication coding makes possible.

### Implications for Practice

The finding that coursework exposure, not program year, predicts sophistication has a direct curricular implication: programs cannot rely on time and general professional development to develop AI literacy. The students who reasoned most carefully about AI had encountered structured opportunities to evaluate it critically, not just use it. Embedding those experiences across the curriculum, in methods courses, in field experience seminars, in assessment courses, rather than concentrating them in a standalone technology course seems more likely to produce the kind of distributed, contextualized learning the data suggest is working.

For faculty, the more uncomfortable implication may be this: what we do with AI in our own teaching is curriculum, whether we intend it to be or not. Student 33 made that explicit. Designing assignments that require students to catch AI errors, evaluate AI-generated accommodations against actual student needs, or compare AI lesson plan drafts to their own is not simply good pedagogy; it is modeling the judgment that teaching with AI actually requires. The specific assignment Student 39 described (evaluating AI-generated accommodations for accuracy) produced some of the highest-sophistication responses in the dataset. That is a replicable design.

At the program and policy level, the preparation gap this study documents, the majority of students at Level 3 sophistication, and the 32-point confidence gap between personal comfort and pedagogical efficacy, suggests that AI literacy cannot remain dependent on which faculty a student happens to encounter. Making structured AI evaluation experiences a program requirement rather than an elective feature of particular courses would systematize what the data suggest is already working when it occurs.

### Limitations

Several limitations constrain interpretation. The cross-sectional design precludes causal inference about faculty modeling effects. The 30% response rate and single-institution context limit generalizability. Self-report measures may not reflect actual competencies. The AI Sophistication Scale, while demonstrating acceptable inter-rater reliability ($\kappa$=.81), requires further validation. Many potentially confounding variables were not measured, including technology aptitude, prior AI experience, personality traits, and field experience quality. Additionally, the rapid evolution of AI technology means findings may not generalize beyond Fall 2025 conditions.

### Directions for Future Research

The most pressing question this study cannot answer is also the most important one: Does the sophistication students demonstrate in coursework survive the transition into actual teaching? Longitudinal follow-up with this cohort into their first classrooms would test whether faculty modeling produces durable professional practice or temporary program compliance.

The second question this design raises without resolving is what, specifically, faculty are doing when modeling works. Student reports name instructors and describes assignments, but observational data on actual faculty practice would reveal which specific design choices, the error-identification task, the comparative evaluation, and the explicit ethical discussion produce the strongest effects on student reasoning. That is the study that would give programs something concrete to implement rather than a general recommendation to 'model AI use thoughtfully.'

Finally, this study's single-institution sample, drawn from a program where the authors teach most of the courses, limits what can be claimed about generalizability. Whether the patterns hold in programs without faculty who have explicitly integrated AI instruction, or in programs serving student populations with different prior AI exposure, is an open question that multi-site replication could address.

## CONCLUSION

We began this study with a hunch, grounded in our own classroom observations, that what we modeled mattered more than what we assigned. The data gave that hunch more texture than we expected. The 47% expressing over-dependence concerns, the 72% planning to integrate AI thoughtfully, and the sophisticated pedagogical reasoning evident in Level 4–5 responses all indicate that the next generation of teachers is already asking harder questions about AI than they are often given credit for. However, the majority at Level 3 sophistication and the confidence gap between personal comfort and pedagogical efficacy reveal that this generation needs continued support.

That the quantitative and qualitative evidence pointed in the same direction, toward coursework, toward specific assignments, toward named faculty, gave us more confidence in the finding than either strand would have alone.

Perhaps most compelling was Student 33's observation: "Support would be for teachers to not use AI to grade or make lessons themselves and then expect us not to learn from their lead." This metacognitive insight captures the hidden curriculum at work. What students observe in our classrooms is not incidental to their preparation. For better or worse, it is part of the curriculum.

The historical parallel one student drew to calculators offers both comfort and caution: "When calculators first came out, people saw it as cheating until it became a necessary and widely-used tool. AI is the same. As long as we are all trained on how to use AI properly, it can be an exceptional tool to help us, not replace us." It's a fair analogy, but it undersells the complexity. Calculators did not make ethical judgments, generate plausible-sounding misinformation, or

require teachers to model what responsible use looks like in real time. What the data suggest is that pre-service teachers are more ready to navigate that complexity than they are often given credit for, and that faculty who take AI seriously in their own teaching give students the vocabulary and the framework to do the same.

Our students are already there — using these tools in their dorms, in their field placements, and in the assignments they turn in to us. The challenge is not to introduce them to AI but to be worth watching when we use it ourselves. Not polished, not certain, but genuinely wrestling with what responsible use requires in real classrooms with real students. The calculator debate, as one student reminded us, eventually resolved itself. This one will too. The question is whether our students leave our programs having seen what thoughtful resolution looks like — or whether they figure it out alone.

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### Table 1. AI Sophistication Scores by AI Education Exposure

| Group | n | M (SD) | Range | High Sophistication (%) |
|---|---|---|---|---|
| Learned about AI in courses | 45 | 2.95 (1.08) | 0–5 | 29% |
| Did not learn / Unsure | 30 | 2.20 (1.06) | 0–4 | 13% |
| Total | 75 | 2.71 (1.10) | 0–5 | 22.6% |

### Table 2. Current AI Uses vs. Planned Future Teaching Applications (Top Items)

| Application | Current Use (%) | Future Teaching (%) |
|---|---|---|
| Brainstorming/idea generation | 85% | — |
| Writing assistance | 77% | — |
| Creating lesson plans | 56% | 79% |
| Creating educational materials | 33% | 83% |
| Assessment creation | 41% | 45% |
| Personalized learning | — | 44% |

### Table 3. Pre-Service Teacher AI Concerns

| Concern | Frequency | % |
|---|---|---|
| Academic integrity/plagiarism | 64 | 85% |
| Over-dependence/reduced independence | 50 | 66% |

| | | |
|---|---|---|
| Reduced critical thinking | 38 | 51% |
| Job displacement | 28 | 38% |
| Accuracy/misinformation | 26 | 34% |
| Loss of creativity | 23 | 31% |

# Professional Development of Inquiry Training Through the Lens of Critical Literacy

*Molly Kathleen O'Rourke*
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**Session Overview**

In this professional development session, elementary school educators will explore how to guide students through social issues such as stereotyping, inequality, and poverty using an inquiry model through the lens of critical literacy. This hands-on session includes an overview of both the inquiry-training model and the critical literacy framework, model lessons, reflection, and resources to adapt to the classroom.

**Session Objectives**

By the end of this session, participants will:

- Understand the principles of inquiry training and critical literacy and their application in the elementary classroom
- Learn how to facilitate student discussions around stereotypes, identity, and inequality using anchor texts.
- Experience and reflect on engaging classroom strategies such as Four Corners, See-Think-Wonder, and Reflective Journaling.
- Walk away with an adaptable lesson plan, anchor charts, vocabulary visuals, and book lists.

**Session Agenda**

**Framing the Learning**

- Welcome
- Introduction to Inquiry-Training Model
- Critical Literacy Overview
- Model Critical Literacy Lesson
- Reflection

## Introduction to Inquiry Training Model

**Narration (12 min)**

**Slide 1: Welcome**

Welcome to my presentation on Inquiry Training through the Lens of Critical Literacy. We will explore how this model empowers students to think critically, collaborate effectively, and take ownership of their learning. This session is designed with elementary educators in mind, with the goal of providing practical tools and strategies for the classroom.

**Slide 2: Agenda**

We'll briefly cover the foundations and different aspects of the Inquiry-Training model and critical literacy. Throughout this session, I'll provide various activites and resources to see the model in action through a lens of critical literacy.

**Slide 3: Overview**

The personal family model of teaching emphasizes inquiry as a dynamic process where students actively explore questions and challenges related to their learning. By using critical literacy, this approach encourages students to think deeply about texts and contexts, promoting analytical skills and fostering a love for learning.

**Slide 4: Research**

Inquiry-Training was developed by Richard Suchman and is grounded in both cognitive and social psychology. It builds on the idea that when learners encounter something unexpected, they're motivated to find a solution. This model builds on a natural curiosity by using structured inquiry, group discussions and teacher guidance.

The model draws from cognitive psychology by focusing on how students think and process information, while social psychology highlights the importance of interaction and collaboration.

**Slide 5: Theorists**

Several educational theorists shaped the Inquiry model. Richard Suchman introduced the structure. Jerome Bruner contributed constructivist principles, emphasizing scaffolding. And John Dewey believed in learning through real-world experiences and reflective thinking.

**Slide 6: Syntax of the Inquiry Training Model**

There are five phases of this model. It begins with identifying a problem, followed by data gathering, experimentation, and organization. The final stage involves reflection. This structure helps students move from curiosity to deeper understanding through a clear, guided process.

**Slide 7: Social System in the Inquiry Training Model**

A supportive, social environment is very important to implementing this model. With teacher support, students work together and contribute openly to learning.

**Slide 8: Principles of Reaction of the Inquiry Training Model**

Here, the teacher goes from being the source of knowledge to a facilitator. Students are encouraged to form and answer questions. The teacher creates a space for dialogue, and thoughtful problem-solving.

**Slide 9: Support Systems of the Inquiry Training Model**

Strong support systems are essential. Teachers guide discussions and help students access a wide variety of engaging materials—from hands-on experiments to online resources. These supports help students make meaningful connections.

**Slide 10: Application of the Inquiry Training Model**

This model works well in the classroom. Real-world problems spark student interest. Group work builds communication skills. And the emphasis on student agency leads to deeper understanding. The teacher guides, helping learners stay on track without giving all the answers.

**Slide 11: Evaluation**

Studies show that inquiry-based learning improves student understanding, motivation, and collaboration. Teachers report that students are more excited about learning. However, challenges remain, such as ensuring equitable access and providing adequate teacher training.

**Slide 12: Strengths and Weaknesses**

This model has many strengths: it builds critical thinking, supports collaboration, and accommodates diverse learning styles. On the flip side, it can be time-consuming and requires a shift in teaching practice. Thoughtful planning and professional development can help overcome these challenges.

**Critical Literacy Overview**

**Narration (12 min)**

**Slide 1: Welcome**

Welcome to my presentation of an overview of critical literacy

**Slide 2: Introduction**

A curriculum framework must address the diverse needs of students while fostering engagement with the world through multiple perspectives. Critical literacy empowers students to recognize how language shapes thought and power dynamics, promoting empathy toward marginalized groups and connecting learning to real-world issues.

This framework encourages active engagement with information, teaching students to analyze power structures, value diverse perspectives, and engage in meaningful dialogue. By fostering confidence, intrinsic motivation, and self-awareness, critical literacy equips learners to question societal norms and contribute to social change.

Ultimately, critical literacy prepares students for a globalized society by promoting equity, empathy, and critical engagement, helping them challenge inequalities and embrace diversity. This approach supports the creation of a more just, democratic, and interconnected world.

**Slide 3: Empowerment and Voice**

Empowerment and voice are central to critical literacy, helping students recognize that their perspectives matter and equipping them to advocate for themselves and others. By challenging texts, sharing viewpoints, and questioning authority, students actively shape their social realities—what Shor calls education as liberation.

This empowerment encourages agency, as students critically engage with texts and construct knowledge by identifying meaningful issues and drawing their own conclusions (Willis & Pollard). It also promotes self-advocacy, helping students articulate their needs and engage in meaningful activism (Cleovoulou).

Critical literacy supports cultural identity by validating students' experiences and fostering inclusivity. Reconstructing marginalized identities, raises awareness of global differences and affirms diverse perspectives.

Through dialogical engagement, students develop their voice by participating in critical discussions, becoming partners in the learning process and promoting mutual understanding.

Together, agency, self-advocacy, cultural identity, and dialogical engagement create a classroom environment where students are empowered to challenge the status quo and use their voices to make a difference.

**Slide 4: Power and Privilege**

Critical literacy invites students to analyze power dynamics within texts, examining who holds authority, whose perspectives are represented, and whose voices are omitted. Freire emphasizes that critical literacy challenges readers to question, disagree, and uncover power relations both in stories and in life.

Authority plays a significant role, as the background and biases of authors shape narratives. By questioning authorship and purpose, students can recognize how language reinforces power structures and privilege. Also, analyzing bias and representation helps students identify hidden agendas and reflect on their own unconscious biases, fostering personal growth.

Critical literacy also highlights the importance of considering multiple perspectives. As texts embed diverse meanings, students are encouraged to explore these without the teacher dictating interpretation. This approach fosters empathy and prepares students to address social issues.

**Slide 5: Equity and Social Justice**

Critical literacy helps students recognize and challenge inequalities in society, encouraging them to take action for social justice. It goes beyond reading and writing by turning these skills into tools for activism and positive change.

At the same time, the idea of social justice can feel abstract for students. Bennett (2012) highlights how empathy plays a key role in making these concepts more relatable. When students connect emotionally with the impact of injustices—feeling hurt, embarrassed, or ashamed—they move from simply understanding the problem to taking action.

**Slide 6: Deep Comprehension**

Deep comprehension is a fundamental component of critical literacy. By analyzing the themes and biases in texts, students enhance their understanding of the world around them. Picture books, as Demoiny and Ferraras-Stone (2018) note, connect historical and current settings, fostering meaningful connections with characters and events. They promote critical literacy by helping students analyze both the text and images for deeper meanings.

Critical questioning promotes intellectual growth, encouraging students to think deeply about the material (Luke, 2012). It also promotes metacognitive reflection, which supports intellectual growth across various disciplines (O'Rourke, 2024b).

Aligned with Common Core Standards, critical literacy engages students in collaborative discussions, where they ask questions, respond, and build on ideas. This strengthens reasoning skills, helping students analyze themes, compare viewpoints, and draw inferences (O'Rourke, 2024c).

**Slide 7: Reflective Thinking**

Reflection is essential for fostering inner growth. Critical literacy not only challenges students to analyze text critically but also encourages them to reflect on their own values, experiences, and biases, helping them recognize how personal beliefs influence their interpretation of information.

Hunkins (1992) links transcendent education with qualities like hope and creativity, aligning with critical literacy's emphasis on self-reflection. Through this self-awareness, students gain the capacity to challenge societal injustices and work towards change (O'Rourke, 2024c).

**Slide 8: Strengths**

Critical literacy is essential for developing critical thinking skills that help students see the world through multiple perspectives. It encourages students to recognize and challenge language ideologies, increasing their awareness of how language shapes thought and power. This framework connects classroom learning to real-world issues, making education more relevant and transformative.

Critical literacy also fosters empathy for marginalized groups, teaching students to identify and take action against societal imbalance. In today's divided society, understanding how language can shape both self and society is a powerful tool. Ultimately, critical literacy equips students with the tools to become informed, empathetic individuals who actively engage in creating a more just and equitable society.

**Slide 9: Obstacles**

The application of critical literacy also has its challenges. Educators must have a deep understanding of the principles behind critical literacy. Teachers don't simply "become critical"; they must engage in ongoing professional development and self-reflection to build self-efficacy, while also practicing self-criticism to recognize their biases and promote personal growth.

A critical literacy approach requires honest, respectful conversations, but this can be difficult because discussions on social justice often challenge existing beliefs. While many associate "safe spaces" with comfort, learning about social justice requires the discomfort of addressing controversy. For critical literacy to be effective, educators need to provide 'brave spaces' where challenging conversations are respectful and transformative.

**Slide 10: Conclusion**

In conclusion, critical literacy enhances students' ability to think critically about language and its role in society. Despite its challenges, it fosters an inclusive and active learning environment, helping students become informed, empathetic, and active citizens who can contribute to meaningful change.

## Model Critical Literacy Lesson

## (58 minutes)

**Overview of Grade 4 Critical Literacy Unit**

Stereotyping often leads to misunderstandings, prejudices, and/or conflict between different groups in the same society. Throughout this unit, students will develop skills that establish and maintain positive relationships and enable communication with others in various settings and situations. Students will demonstrate awareness of cultural issues and respect for human dignity and differences.

**Lesson Plan Goals**

**Texts can be understood from a variety of perspectives. Students will be able to independently use their learning to…**

- reflect on the role their own perspectives, values, and beliefs play in understanding a text.
- read texts in a reflective manner in order to understand power, inequality, and injustice in human relationships.
- analyze a text from multiple perspectives, including perspectives excluded from the text.
- consider the social implications of a text and identify personal actions that can be taken toward a just society.

- compare two books on the same topic or theme in order to identify the similarities and differences in the perspectives, values, and beliefs communicated by each book.

**Lesson Plan Objectives**

**Students will be skilled at…**

- considering different purposes, audiences, and perspectives in exploring texts.
- identifying how differences in context, perspectives, and voice influence meaning in texts.
- recognizing the role of language in personal, social, and cultural identity.
- applying a variety of age-appropriate thinking skills and critical literacy strategies to gain meaning from texts.

**Student-Friendly Learning Targets**

**"I can" Statements**

- I can explain what a stereotype is and how it affects people
- I can think about who wrote a book, who it's for, and what message the author want to share.
- I can share how a story connects to my life or someone I know.
- I can talk about how people might see the same story in different ways.
- I can notice when someone is being treated unfairly.

## ACTIVITIES

• Four Corners — students indicate their viewpoint on statements by situating themselves around the four corners of the room.
• Observe, Wonder, Infer — students look at images to make careful observations and thoughtful interpretations to help stimulate curiosity.
• Read aloud — teacher reads aloud Fly Away Home.
• Discussion — teacher poses guiding questions to discuss the read aloud.
• Reflective journals — students write a reflective journal entry about a time they, or someone they know, experienced a stereotype or went against a stereotype.
• Anchor Chart Creation — as a class, students co-construct a visual reference defining and illustrating stereotype, perspective, poverty, and inequality.
• Optional Follow-up Activity — students compare Fly Away Home with Those Shoes by Maribeth Boelts and identify similarities and differences in how poverty is portrayed.

| Stage | Procedures | Materials or Resources |
|---|---|---|
| **Beginning** | Four Corners<br>To begin, we are going to play Four Corners. I will make some statements, and students will go to the designated corner if they think the statement is true.<br>Sample prompts:<br>• Go to corner #1 if you believe that boys are faster than girls.<br>• Go to corner #2 if you believe that women should care for children.<br>• Go to corner #3 if you think baby girls should wear pink and baby boys should wear blue.<br>• Go to corner #4 if you think people who drive expensive cars are rich.<br>• Go to corner #1 if you think people who drive less expensive cars are poor.<br>• Go to corner #2 if you think having a small house means you are not rich.<br>• Go to corner #3 if you think poor people are lazy.<br>• Go to corner #4 if you think rich people work hard.<br>• Go to corner #1 if you think rich people are always clean.<br>See, Think, Wonder<br>Students rotate through four posters with images (see materials). At each station, they answer:<br>• What do you see?<br>• What do you think is happening?<br>• What does it make you wonder?<br>Debrief & Define: “Stereotype”<br>After sharing, introduce the word stereotype. Work together to create a class definition and add it to the anchor chart.<br>Discussion Prompts<br>• What stereotypes do we see in the world around us?<br>– Encourage students to share examples from media, school, or their community.<br>• Where do we learn stereotypes?<br>– Explore influences such as family, media, and culture that contribute to stereotype formation.<br>• What is harmful about a stereotype?<br>– Discuss how stereotypes can perpetuate discrimination and hinder personal connections.<br>• What can we do about stereotypes?<br>– Brainstorm actionable steps students can take to challenge and change stereotypes in their environment. | • Posters with one of the following images pasted:<br>• Image 1<br>• Image 2<br>• Image 3<br>• Image 4<br>• See, Think, Wonder |
| **Middle** | Read Aloud — Fly Away Home by Eve Bunting | • Picture book: Fly Away Home by Eve Bunting |

| | | |
|---|---|---|
| | Read aloud the picture book Fly Away Home by Eve Bunting.<br>Pause to ask and discuss the following questions with partners and the whole class:<br>• Who is the intended audience?<br>• Is this story like your life or not?<br>• What would you change about this story to make it more like your life (or someone's life in your family or neighborhood)?<br>• What can we do to challenge the stereotypes?<br>• How might others understand this text differently?<br>• Why did the author create this text? What is her message?<br>• Who benefits if this "message" is accepted?<br>Optional Book Comparison<br>Read Those Shoes by Maribeth Boelts on another day. Then facilitate a comparison between both books:<br>• How do these books show poverty in different ways?<br>• What messages are similar or different?<br>• Whose voice is missing in either story? | • Picture book: Those Shoes by Maribeth Boelts |
| **End** | Reflective Journal<br>Ask students to reflect in their notebooks about a time they, or someone they know, experienced a stereotype or went against a stereotype. Also, answer the following questions:<br>• What are the stereotypes some people have against poor people?<br>• What is it about our differences that makes others fearful?<br>• How has this text changed your perception of poverty?<br>Discussion of Journal Insights<br>Facilitate a discussion around journal entries. Encourage volunteers to share insights.<br>Class Action<br>Students brainstorm ways they can promote fairness and challenge stereotypes. Ideas can be turned into posters, a class book, or a community kindness campaign. | • Writer's Notebook |

**Formative Assessment**

**Observations / Anecdotal Notes**

- Notice if students are identifying different perspectives.
- Notice if students have a solid grasp of stereotypes.

- Notice if students have misconceptions.
- Notice if students use strategies to critically analyze texts in a critical manner
- Notice if students' responses in journals demonstrate a shift in their understanding of what poverty means.

## Closing

### Closing & Takeaways (5 min)

As we start to wrap up today's session, I would like to invite you to take a moment and share one 'a-ha' moment. Something that really clicked for you or helped you think in a new way. Additionally, before you leave, I would appreciate if you would complete a quick Exit Ticket. Just write down one thing you're excited to try in your classroom and any questions you still have. On your way out, please take a packet of resources. You'll find the lesson plan designed for elementary students, a list of texts that promote critical literacy, and a list of guiding questions to facilitate discussions with your students. I'll also send you links to today's presentation materials, along with a digital version of the lesson plan which is a *force copy* so it can be adapted to fit your own classroom needs. My hope is that these tools make it a little easier to bring today's ideas into your classroom.

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## Appendices

### Appendix A

*Links*

PowerPoint Presentation 1 - Inquiry Training Overview

PowerPoint Presentation 2 - Critical Literacy Overview

PowerPoint Presentation 3 - Critical Literacy Model Lesson

Critical Literacy Lesson Plan

Google Form Exit Ticket

### Appendix B

*Texts to Promote Critical Literacy*

**Gender Equity Resources:**

Oliver Button is a Sissy by Tomie dePaola

The Princess Knight by Cornelia Funke

Cinder Edna by Ellen Jackson

The Paper Bag Princess by Robert N. Munsch

William's Doll by Charlotte Zolotow

**Social Class Equity Resources:**

Fly Away Home by Eve Bunting

A Day's Work by Eve Bunting

A Shelter in Our Car by Monica Gunning

Tight Times by Barbara Shook Hazen

Those Shoes by Maribeth Boelts

The Lady in the Box by Ann McGovern

Lily and the Paper Man by Rebecca Upjohn

**Racial Diversity Resources:**

Willie's Not the Hugging Kind by Joyce Durham Barrett

Amazing Grace by Caroline Binch

Back of the Bus by Aaron Reynolds

The Other Side by Jacqueline Woodson

Big Red Lollipop by Rukhsana Khan

Freedom Summer by Deborah Wiles

Freedom on the Menu by Carole Boston Weatherford

A Sweet Smell of Roses by Angela Johnson

White Socks Only by Evelyn Coleman

Virgie Goes to School with Us Boys by Elizabeth Fitzgerald Howard, & Lewis, E. B.

A Fine Dessert: Four Centuries, Four Families, One Delicious Treat by Jenkins & Blackall

**Religion:**

Number the Stars by Lois Lowry

Butterfly by Patricia Polacco

The Cats in Krasinski Square by Karen Hesse

Star of Fear, Star of Hope by Jo Hoestlandt

One Candle by Eve Bunting

Yellow Star by Carmen Agra Deedy

Lily Cupboard by Shulamith Levey Oppenheim

The Bracelet by Yoshiko Ushida

Rose Blanche by Roberto Innocenti

Cats in Krasinski Square by Karen Hesse

**Appendix C**

*Critical Literacy Guiding Questions*

# CRITICAL LITERACY

Critical literacy involves reading critically—thinking about the identity and intent of the writer, and the social and historical context in which the text was written.

As you read, think about the following questions:

- Who is the author?
- Why did the author write this piece?
- Who is the intended audience?

- Whose voice is represented?
- Whose voices are missing?
- What issues of power are represented in the piece?
- How are women portrayed in the piece?

- What experiences of the author may be guiding his or her writing?
- What does the author hope to communicate to readers of this work? What messages are being sent to the reader?
- How is your interpretation of the text influenced by your knowledge of the period in which it was written?

**Questions that promote reading from a critical stance**

**Print** (e.g., books, newspapers, magazines, song lyrics, hypertext)

Whose viewpoint is expressed?
What does the author want us to think?
Whose voices are missing, silenced, or discounted?
How might alternative perspectives be represented?
How would that contribute to your understanding the text from a critical stance?
What action might you take on the basis of what you have learned?

**Television or photographs**

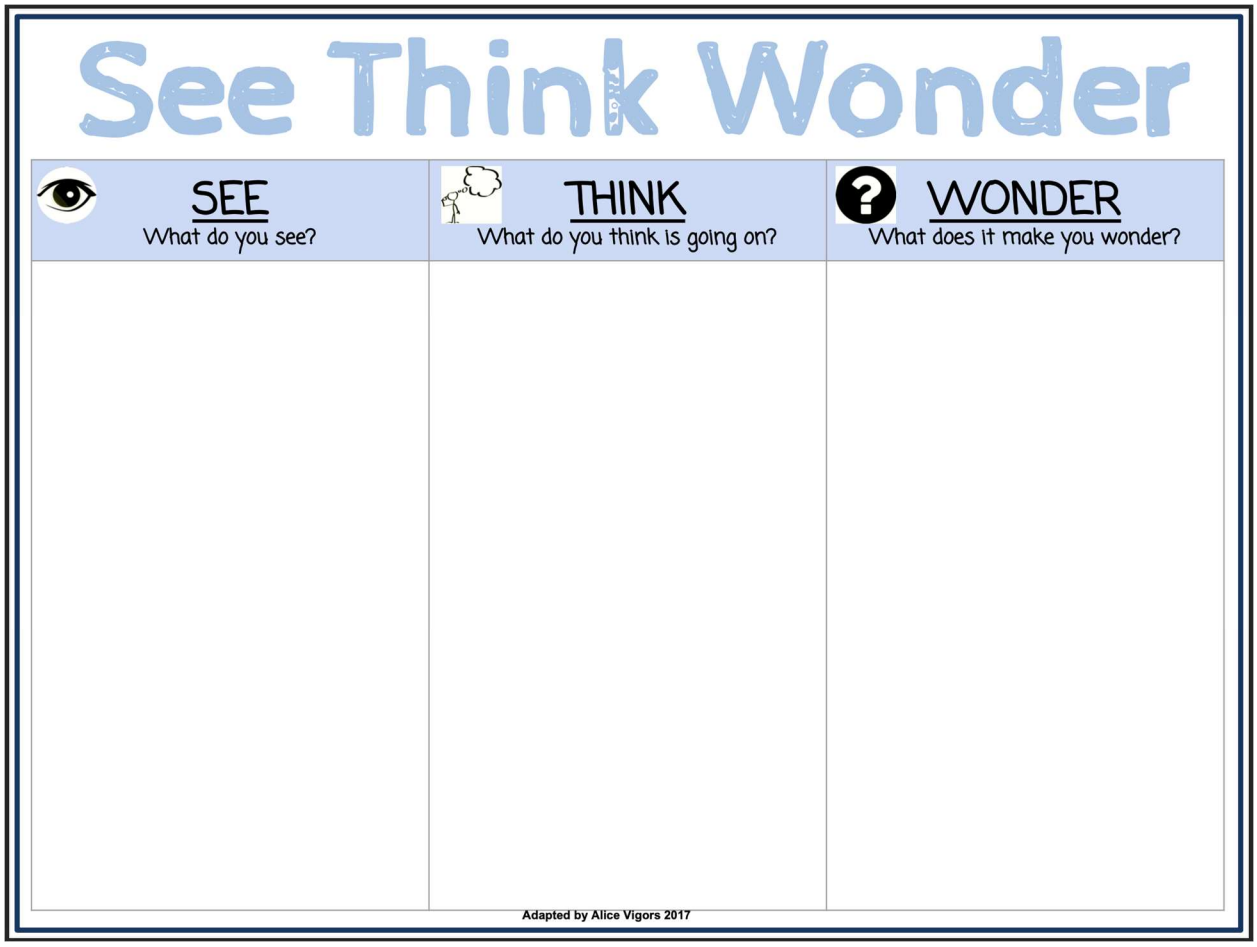
Who is in the video or photograph?
Why are they there?
What does the videographer or photographer want you to think?
Who or what is missing from the video or photograph?
Who is silenced or discounted?
What might an alternative video show?
What might an alternative photograph look like?
How would that contribute to your understanding the video or photograph from a critical stance?
What action might you take on the basis of what you have viewed?

## Appendix D

*Images*

## Appendix E

*See, Think, Wonder*




**Appendix F**

*Exit Ticket – Reflecting on Today's Session*

**GOOGLE FORM**

**Form Description:**
Thank you for joining today's session! Please take a moment to reflect and share your thoughts below.

**Question 1:**
One thing I'm excited to try in my classroom is:

**Question 2 (Optional):**
One question I still have is:

**Confirmation Message:**
Thanks for your feedback! I'll follow up on any remaining questions and can't wait to hear how things go in your classroom.

# Educator Perceptions of Students with Disabilities in the General Education Setting

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Abstract

This narrative inquiry study explored the lived experiences of Connecticut's certified educators related to implicit bias and student placement. The theory of intersectionality suggests that implicit bias is present within all individuals (Crenshaw, 2017). Thus, there is a natural propensity for implicit bias, specific to ability, among school personnel. The problem to be addressed is the need for a greater understanding of how the natural existence of implicit bias among certified educators impacts their view of student capabilities and achievement, thus impacting placement decisions in the classroom. Eight participants completed individual, semi-structured interviews, which were transcribed, re-storied and member checked. Data analysis was completed after the re-storied narratives were manually coded. Three themes emerged from the coded re-storied narratives: (a) challenges in creating an inclusive environment, (b) lack of guidance and training related to the least restrictive environment (LRE) and (c) lack of guidance and training related to implicit bias. Key findings in this study are connected to prior research studies, including a connection to the benefits of inclusion, a lack of skill set or support of from general and special education teachers and a lack of professional development related to least restrictive environment and/or implicit bias. Recommendations from this study include ongoing professional development related to the least restrictive environment and implicit bias, the implementation of common planning time for general and special education teachers, and the implementation of co-teaching models.

***Keywords:*** *General education, implicit bias, least restrictive environment, professional development, special education*

Since its implementation, the Individuals with Disabilities Education Act has dramatically increased time spent in general education for students with disabilities in kindergarten through high school (*History of the Individuals*, 2023). In the 2020-2021 school year, public schools educated 7.5 million students with disabilities, compared to only 1.8 million prior to 1975 (*History of the Individuals*, 2023). The goal of IDEA, to have students educated in the least restrictive environment (LRE), has made significant strides. Data from 2020-2021 shows that 66% of students with disabilities spent over 80% of their school day in classrooms with non-disabled peers (*Data Profiles*, 2023). Thus, the implementation of IDEA has not only significantly increased the time students with disabilities spend in general education settings but also reflects substantial progress towards achieving the goal of educating students in the least restrictive environment.

While these significant strides since the initial implementation of the 1975 Education for All Handicapped Children Act (EHA) are impressive, the question of addressing a continued bias among our educators is an important one to research. According to the theory of intersectionality, Crenshaw (2017) asserts the presence of implicit bias within all individuals. Thus, there is a natural propensity for implicit bias, specific to ability, among school personnel (Starck et al., 2020). This study addressed the need for a greater understanding of how the innate presence of implicit bias among certified educators impacts their view of student capabilities and achievement, thus impacting experience in the general education classroom. More specifically, there is a tendency among educators to harbor biases that assume students with intellectual disabilities are incapable of engaging in a general education setting. According to White et al. (2023) various perceptions of administrators were examined, revealing that 25% of the participating administrators believed that providing access to suitable environmental supports posed a hindrance for students with intellectual disabilities in accessing the general education environment.

Likewise, students with emotional disabilities (ED) also experience high rates of segregation from non-disabled peers. Students with ED experience high rates of segregation from the general education environment. This is largely because general education teachers enact fewer strategies for behaviors associated with ED. Further, the perception that such strategies are important to implement was significantly higher among special education teachers than general education teachers (Gable et al., 2012). Resource teachers impart slightly more appropriate behavioral strategies than general education teachers, but self-contained teachers implement the most strategies for students with ED (Evans et al., 2012). The culminating factor is that research proves self-contained programs offer lower student expectations and are less rigorous in nature (Hanreddy & Östlund, 2020). The misunderstanding of intensive services existing exclusively in restrictive environments has led to the placement of students in segregated environments, creating two separate systems of education: one of special education and one of general education (Lim, 2020). Furthermore, the restrictive environments are represented by a disproportionate number of students both in gender and race (Wehmeyer et al., 2021). Implicit bias related to racism, in addition to ableism, affects the identification and subsequent educational placement of students of color (Morgan, 2020).

The following research questions were developed to explore the experiences of certified educators in LRE placement, in relation to their implicit bias. Moreover, the research questions aimed to comprehend the experiences of certified educators regarding barriers that may hinder positive progress towards overcoming implicit bias in education. These research questions were instrumental in developing the interview protocol.

**Research Question 1:** What actions do Connecticut special and general education teachers believe are most effective in overcoming implicit bias as it relates to least restrictive environment?

**Research Question 2:** What barriers do Connecticut special and general education teachers perceive as being problematic in increasing time in the general education environment and/or best implement least restrictive environment?

**Research Question 3:** What professional development experiences have informed Connecticut special and general education teachers' ability to overcome implicit bias as it relates to least restrictive environment?

## METHOD

### *Participants*

Eight Connecticut certified educators volunteered to participate in this study. Participants were recruited via an email distribution. All participants held an active educator certificate and were employed by a Connecticut urban school district. Two participants held a certification in special education, four participants held a certification in general education, and two participants held both special and general education certification. Prior to conducting the interviews, the participants received informed consent documents, which they reviewed and signed, in order to express agreement to participate in the study. Informed consent included a brief questionnaire for participants to complete, noting their qualifications to meet the minimum requirements of this study: agreement to record the interview session, at least one year of service, and Connecticut special education certification and/or general education certification.

### *Data Collection*

All participants were individually asked the same guided interview questions, which were created from the three research questions that shaped this study. Zoom was the preferred platform, as it allowed for recording and transcription. Agreement to record was required to participate in this study, as it assured an additional method of accuracy. Transcription accuracy was ensured as the researcher personally reviewed the recorded transcripts. The transcripts were analyzed from the temporal, social, and spatial perspectives (Haydon & van der Riet, 2017). In other words, the researcher examined the narratives in terms of how time, environment, and societal influence have shaped their impact. Due to the sensitive nature of the topics discussed, participants were notified about the recording agreement at the outset of the solicitation process.

Participants were offered the opportunity to participate in this study at a variety of times, to ensure they were able to find a private space. Participants were kept anonymous. Steps to keep the anonymity of participants included utilizing the de-identification process (Crewswell & Guetterman, 2016). Following the initial solicitation process, the researcher requested a meeting with participants, respectively. During this meeting, the researcher elaborated on the study's purpose, presented a confidentiality agreement, and consent form for recording.

### *Data Analysis:*

The researcher developed interview questions based on the three research questions that guide this study. The questions served as a guide to encourage conversation, for an in-depth account of the participant's experiences. The researcher used temporal, social, and spatial perspectives to analyze the interview transcripts (Haydon & van der Riet, 2017). Initially, the researcher examined instances of effective actions taken to address implicit bias from a temporal standpoint. The researcher aimed to investigate the experiences associated with efforts made to address implicit bias, with a specific emphasis on examining changes that occur over time. Next, the use of a spatial societal perspective, allowed the researcher to review participants' experiences with barriers for student access to general education environment. Then, the researcher adapted a temporal perspective in analyzing the experiences of participants in professional development regarding implicit bias and LRE. The researcher reviewed the transcripts to identify any similarities or differences related to participant's implementation of LRE for students with disabilities. Finally, the researcher explored statements pertaining to the integration of student profiles within a general education classroom, as one of the examples.

## RESULTS

The shared experiences of the participants reflected on aspects such as the inclusive classroom, training on LRE, and training on implicit bias within the public school system. The researcher immersed themselves in the data, organizing individual stories into three categories: (a) work with special education students, (b) understanding of LRE, and (c) professional development. The data was analyzed through manual coding, identifying common trends and themes. The participants shared common themes of: (a) frustration with creating an inclusive classroom, (b) a lack of training related to LRE, and (c) a lack of training on implicit bias. Themes were then analyzed from the temporal, social, and spatial perspectives to understand how time, societal influence, and environment shaped participant perspectives.

**Research Question One:** What actions do Connecticut certified educators believe are most effective in overcoming implicit bias as it relates to least restrictive environment? The first research question sought to uncover which actions Connecticut certified educators believe are most effective in overcoming implicit bias as it relates to least restrictive environment. The experiences of certified educators were varied. There was a clear frustration with a lack of time and opportunity for collaboration. This was expressed by both the special education and general education participants. Both special education and general education teachers advocated for this time and noted that this collaboration is crucial in planning for inclusive environments. Teacher A has sought out her own training related to implicit bias. Some participants highlighted their ongoing pursuit of professional development concerning implicit bias, among them, general educators Teacher B and Teacher C and special educator Teacher A. Teacher D's experience at the preschool and pre-kindergarten level was slightly different than other participants. Teacher D noted that they are often able to work closely with their team members to implement an inclusive classroom. Teacher D worked collaboratively with their team to deliver individualized

instruction or pre-teaching to students, primarily aiming to reintegrate them into most of the lesson.

Many participants shared that they had no formal training regarding implicit bias, and all participants shared that they had not had direct training relating to implicit bias and special education students. The study's significance is underscored by the absence of identical definitions and understandings of LRE among the participants, with one noting a lack of noteworthy experience with LRE. This is supported by research in the literature review, which revealed that despite its addition in 1990, there continues to be disagreement over LRE, which impacts the consistency in which it can be implemented (Lim, 2020; Sauer & Johnson, 2016). A contributing factor to this disagreement over the meaning of LRE, is the absence of federal law definitions for terms (e.g., inclusion and mainstream) frequently employed by educators in discussions about LRE (Underwood, 2018). Regardless, each participant shared how they had been able to effectively overcome implicit bias in their classroom practices. Each of the special education teachers noted that when they co-taught in general education settings, they made efforts to work with all students rather than only work with special education students. Two general education teachers and one special education teacher reported that they no longer read IEPs before meeting a student. Instead, they present students with unmodified work to assess their capabilities and offer accommodations as necessary.

**Research Question Two:** What barriers do Connecticut special and general education teachers perceive as being problematic in increasing time in the general education environment and/or best implement least restrictive environment? The second research question, which guided this study, sought to answer which barriers Connecticut certified educators perceive as being problematic in increasing time in the general education environment and/or best implement least restrictive environment. All participants expressed frustrations with a lack of time to collaborate with special and general education teachers. Furthermore, all general education teachers expressed frustration with the lack of support from special education teachers. This included any frustrations with a lack of time to collaborate. The solitude in planning for classes with over 50% special education students persisted for Teacher C until their district implemented a co-teaching model. Teacher E, who's district does not have a co-teaching model, continues to be frustrated with a lack of support from special education teachers. They have implemented their own strategies to provide education to their students, but admit that they are not meeting IEPs individually, but are instead giving all students with IEPs the same assignment.

The challenges encountered in designing an inclusive classroom are not limited to the general education teachers who took part in this study. Teacher A, a middle school special education teacher, noted that the lack of collaboration time with general education teachers makes sharing student plans difficult. They shared that this is particularly true for students with behavior plans. Teacher A shared that general education teachers are often not present at student support meetings, and thus do not have the opportunity to provide input or ask questions about a student's plan before being asked to implement it. Teacher F, also a middle school special

education teacher, shared that implementing LRE can be difficult for general education teachers. They shared that their district collapsed some of the self-contained classrooms and placed students in the general education setting. Teacher F, the special education teacher expressed that general education teachers struggle to modify the assignments for students entering the class halfway through the year and reading several grade levels below the assigned content. This study's findings are consistent with the literature review that LRE has created two separate systems: special and general education (Kauffman et al., 2021; Sauer & Jorgensen 2016).

Teacher A, a special education teacher, and Teacher C, a general education teacher, both work at school districts that have implemented a co-teaching model. Both educators presented this change as positive, however; both educators also advocated for a need for more time to collaborate with their co-teacher. Teacher E, a general education teacher, noted that they rarely interact with special education teachers and thus have adapted by implementing the same accommodations for all students. Teacher E noted this lack of collaboration and support impacts their ability to have a successful inclusive classroom.

General education teacher Teacher E pointed out that a hinderance to comprehending LRE is the limited knowledge general education teachers possess about special education. Teacher E shared that as a general education teacher, they were required to take one class in special education. Teacher E was able to come up with a definition for LRE, but quickly shared that they did not really know and could not contribute more to that question. Teacher F shared that they feel they have no say, as a special education teacher, in the determination of a student's LRE, because administrators have already made those decisions. Teacher F also shared that they did not believe educators, as a group, have the same understanding of LRE and thus there is confusion around this topic.

**Research Question Three:** What professional development experiences have informed Connecticut special and general education teachers' ability to overcome implicit bias as it relates to least restrictive environment? The final research question of this study sought to determine which professional development experiences have informed Connecticut certified educators' ability to overcome implicit bias as it relates to least restrictive environment. Participants relied on their personal opinions and research to answer this question, as opposed to their experiences in their districts. This is primarily because most participants lacked professional development specifically addressing implicit bias. Participants who received professional development on implicit bias from their district shared that the sessions spanned one school year, with no follow-up work mandated for teachers. One participant shared their experience in implementing district wide professional development into their daily practice. Bill reflected that they were able to continue the work related to culturally responsive classroom in response to how they plan for an environment in which students have access to their education. This is reflective of the 2021 passing of Public Act 21-35, which required school districts to develop a strategic plan to reduce racial disparities in education. In response to this law, many districts created equity teams as part of their strategic improvement plan (Mirror, 2022).

Teacher A's district had not provided any professional development, but they still shared their response to this question because the lack of professional development had motived them to pursue their own education on implicit bias and LRE. Teacher A's personal motivation to seek out their own professional development is reflective of the research, which revealed that although there has been an increase in conversations regarding equity and implicit bias in United States education, these conversations do not address implicit bias specific to ability (Rivera & Tilcsik, 2023).

Teachers reported that while their districts had offered limited training related to implicit bias, none had received any training on implicit bias specifically related to special education labels. This was an interesting find, given that the literature review of this study summarized several studies that noted implicit bias related to special education labels of emotional disability (ED) and intellectual disability (ID) (Grindal et al., 2019; McCabe et al., 2020; McKenna et al., 2022,). All participants did not express shared experiences directly related to working with students with ID or ED. The participants who did share their experiences, are noteworthy in this study. Teacher F's experience with their district dismantling some self-contained programs and fully integrating students with ID into the general education classrooms has led to lack of instruction, as general education teachers lack the training to modify such assignments. Such a case is supported by the literature review which noted that general educators often lack the skill set to implement programming or modifications for special education students (Wehmeyer et al., 2021). In Teacher F's experience, what should have been inclusive, turned out to be segregated.

Additionally, any professional development provided lasted only a year, and all participants indicated that no follow-up work was undertaken. It is important to highlight that many participants in this study, both general and special education teachers, noted that they had sought out their own professional development, and all but one participant noted that they believed it was important for educators to learn and identify their own biases. This underscores the critical need for sustained support and ongoing training to address the complexities of fostering inclusive environments in urban educational settings.

The researcher recruited and interviewed eight participants currently practicing in urban school districts in Connecticut. The emergence of three themes followed the process of re-storying, coding, and analyzing the data. The first theme was: challenges in creating an inclusive environment. The participants noted frustrations with a lack of time to collaborate with teachers to plan for students in an inclusive environment. The second theme was: a lack of guidance and training regarding the LRE. Many of the teachers noted a lack of consistent understanding or implementation of LRE in their districts, while some general education teachers noted having very little instruction or discussion about LRE. The third theme was: a lack of guidance and training regarding implicit bias. This theme revealed participants had a variety of training or lack thereof regarding implicit bias; however, all participants shared that even available district training opportunities did not extend beyond one school year.

## IMPLICATIONS

**Professional Development Needs:** Connecticut certified educators, as revealed by this study, have voiced a lack of consistent professional development concerning implicit bias and LRE. Inan-Kaya et al. (2022) assert that implicit bias is present in all classrooms. Some participants were unable to apply their district's professional development to creating an inclusive classroom, free from bias. In this study, many educators saw the value in this training, but have sought it on their own, in the districts' absence. It is important to emphasize that in this study, none of the certified educators received professional development concerning implicit bias and student disability label. In essence, the study reveals a lack of training regarding student placement and bias to include student ability level, race and/or gender. This study underscores the necessity for professional development programs tailored to addressing implicit biases, particularly those related to intersectionality. This may include training sessions aimed at increasing awareness and understanding of biases related to student ability, race, and/or gender. Overall, the implications of this study suggest that targeted efforts to address implicit bias can lead to positive changes in student placement practices and contribute to greater equity and inclusion in education.

**Enhancing Student Placement:** Research shows that students with educational disability labels of ID and ED are more likely to face bias (Wehmeyer et al., 2021). Furthermore, biases related to ability, race and gender have resulted in overrepresentation of students with specific disability categories (Cooc, 2022; Wehmeyer et al., 2021). Students with education labels of ID and ED are most likely to be placed in restrictive environments, usually with no access to the general education setting (Wehmeyer et al., 2021). Enhancing the placement of students with disabilities in less restrictive educational settings is possible by addressing implicit biases through ongoing targeted professional development. This may also potentially eliminate the two separate systems of education: special education and general education, as identified not only in this study but also in additional literature (Kroesch & Peeples, 2021).

Such initiatives may result in heightened access to general education environments for these students, fostering their overall academic and social development. Jones and Winters (2023) revealed that inclusive environments have positive impacts on all parties involved, including improved social skills, increased engagement, social relationships, higher expectations, higher scores on academic tests, and better post-secondary outcomes. Additionally, research proves that greater access to general education environments, creating inclusive classrooms, would have a positive impact on special education students, general education students and teachers (Sauer & Jorgensen, 2016; Wehmeyer et al., 2021). Wehmeyer et al., (2021) found that students with disabilities placed in an inclusive environment outperform students with disabilities placed in a segregated program.

**Promoting Equity in Education:** The absence of bias identification ability perpetuates overly restrictive placement decisions, impacting students with ID and ED. Woods (2018) emphasized the concept that implicit bias theory posits the presence of unconscious bias in all individuals. Moreover, Inan-Kaya et al., (2022) demonstrated that implicit bias permeates across all

classrooms and can manifest in both non-verbal and verbal interactions, such as the duration of academic discourse utilized by educators when interacting with students. Comprehensive professional development for all certified educators is essential in reducing bias in placement decisions. Perry et al. (2015) found that individuals who are aware of their own biases have a higher likelihood of recognizing and understanding the biases of others.

Students with ID and ED are among the most segregated groups of students with disabilities and such segregation of students in self-contained classrooms results in lower graduation and post-secondary employment rates (Grindal et al., 2016). Furthermore, students with ID and ED in segregated settings, are often taught with a modified curriculum, which decreases academic rigor (Grindal et al., 2016; Hanreddy & Ostlund, 2020; McCabe et al., 2020). Mitigating biases influencing student placement can facilitate districts in attaining greater equity in education. This may contribute to narrowing achievement gaps and ensuring that all students, regardless of ability or background, have equal opportunities to succeed academically.

**Fostering Positive Outcomes:** The impact of an inclusive classroom has positive benefits for teachers, paraeducators, special education students and general education students (Jones & Winters, 2023). Students placed in more restrictive environments demonstrate more behavioral episodes, less instances of self-regulation, and poorer interpersonal skills (Gottfried, 2014), which could be improved with an inclusive model, appropriately supported by ongoing, targeted professional development. Furthermore, districts with more inclusive programming show lower incidences of due proves hearings (White et al., 2023). Implementing strategies to address implicit bias has the potential to yield positive outcomes at various levels within the educational system. These outcomes may include improved student outcomes, enhanced school climate, and increased satisfaction among both students and school personnel, all of which are supported by research conducted in the field of education (Bolourian et al., 2018; Jones & Winters, 2023; Wehmeyer et al., 2021).

This study underscores the critical need for ongoing research in this area, as implicit bias and disparities in special education labeling and placement are nation issues (Kroesch & Peeples, 2021; Sauer & Jorgensen, 2016). Urgent action is required to address the identified gaps in professional development, particularly in implicit bias training with an intersectional approach encompassing student disability labels and placement considerations. The findings from both the literature review and the participants' lived experiences demonstrate that recognizing one's biases illuminates a shift in practice, along with the capacity to identify such biases in others (Perry et al., 2015). Furthermore, this study supports the need for districts to adapt co-teaching models in their classrooms to support the need for common planning time and instruction for the general and special educators. Such actions will mitigate the disparity between special and general teacher skill set, which ultimately impacts the success of an inclusive environment (Kauffman et al., 2021; Sauer & Jorgensen 2016). These recommendations are not only corroborated by the findings of this study but also congruent with existing literature in the field.

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# Universal Design for Learning: Transforming Educator Preparation: Enhancing Equity and Access in Educator Preparation Programs Through UDL's Three Core Principles: Representation, Action & Expression, and Engagement

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Abstract

Teacher-preparation programs in the United States have long relied on uniform curricula, standardized assessments, and lecture-based instruction that create barriers for a wide range of candidates, including those with disabilities, multilingual learners, first-generation college students, and working adults. Rather than supporting diverse talent, these design choices often function as filters that narrow the teaching pipeline. Universal Design for Learning (UDL) offers a research-based solution: a proactive framework for designing courses, materials, and assessments that work for the full range of learners from the start, without requiring individual workarounds after barriers have already appeared. Developed by CAST and grounded in neuroscience and learning science, UDL is organized around three principles: Multiple Means of Representation, Multiple Means of Action and Expression, and Multiple Means of Engagement, each aligned with the brain's recognition, strategic, and affective networks. The 2024 release of UDL Guidelines 3.0 updated the framework's goal to cultivating learner agency that is purposeful, resourceful, and strategic, and added an explicit equity strand that addresses systemic barriers and institutional bias. This paper presents the rationale for embedding UDL in educator preparation, examines its neuroscientific foundations, distinguishes it from differentiated instruction and accommodation, and details the practical checkpoints of all three UDL principles. A meta-analysis reporting an effect size of 3.56 (Almeqdad et al., 2023), alongside policy alignment and implementation research, confirms UDL as an essential component of equitable, effective teacher education.

Keywords: universal design for learning, educator preparation, equity, inclusive pedagogy, UDL Guidelines 3.0, learner variability, neuroscience, teacher education, implementation fidelity, learner agency.

Educator preparation programs face a clear and growing equity problem. Traditional course designs (built around standardized assessments, rigid timelines, and lecture-only delivery) were created with a narrow student profile in mind. They work best for a recent high school graduate without a disability, whose home language is English, and who has access to the full resources of a residential university. That profile has never described all teacher candidates, and it describes a shrinking share of today's programs. The result is that many preparation programs act as filters rather than supports. Candidates with disabilities, multilingual learners, first-generation college students, and working adults encounter structural barriers that have little to do with their potential as teachers. When support is offered only after a candidate has already failed or fallen

behind, it reinforces a compliance culture focused on minimum legal requirements rather than genuine belonging. The downstream cost is a narrower, less representative teaching workforce, at exactly the moment when the P–12 student population is growing more diverse (Tucker-Smith, 2023; Katz & Sugden, 2025).

The pressure for change comes from multiple directions at once. Teacher shortages are most severe in the communities that need skilled, culturally responsive educators most. Diversifying the teacher pipeline means removing the structural obstacles inside preparation programs that prevent qualified candidates from completing their degrees. Federal policy already points in this direction: The Every Student Succeeds Act of 2015 names UDL as an evidence-based instructional approach, and IDEA 2004 requires instructional designs that provide access to the general curriculum for students with disabilities. Professional standards are shifting as well. Major accreditation bodies have incorporated inclusive practice into their review criteria, and the 2024 release of UDL Guidelines 3.0 strengthened the framework's equity focus by explicitly addressing systemic barriers and institutional bias (CAST, 2024). There is also a pedagogical argument: candidates who experience UDL in their own coursework are better prepared to use it in their own classrooms. UDL in teacher preparation thus serves two purposes at once: it diversifies the pipeline and models the professional standard graduates are expected to meet (Meza & Heberling, 2025).

## What Is Universal Design for Learning?

Universal Design for Learning is a framework for designing courses, materials, and assessments that accommodate the full range of human learner variability. Developed by CAST, it is grounded in neuroscience and learning science and organized around three core principles, each linked to a network of the brain. The central insight is a shift in perspective: rather than trying to fix individual students, UDL calls for fixing the curriculum. When a student cannot access content, the appropriate response is to redesign the content, not remediate the student. The three principles are Multiple Means of Representation (the "what" of learning, tied to recognition networks), Multiple Means of Action and Expression (the "how," tied to strategic networks), and Multiple Means of Engagement (the "why," tied to affective networks). UDL Guidelines 3.0 updated the aspirational goal from developing "expert learners" to cultivating learners who are purposeful and reflective, resourceful and authentic, and strategic and action-oriented (CAST, 2024). This language shift reflects a broader move toward asset-based, equity-centered views of learner capacity.

## Why UDL in Teacher Preparation?

There are five clear reasons to embed UDL specifically in teacher preparation. First, it diversifies and retains the pipeline by removing structural barriers that exclude qualified candidates. Second, it models inclusive pedagogy: faculty who design their own courses using UDL show candidates what inclusive design looks like in practice, which is far more powerful than simply describing it in a lecture. Third, it increases access to content, ensuring that readings, lectures, and assignments are reachable by all candidates regardless of disability, language background, or

technology access. Fourth, UDL fosters learner agency and reflection. When candidates navigate multiple representation options and choose expression formats that suit their strengths, they develop the self-awareness that adaptive teaching requires. Fifth, UDL supports antiracist and trauma-informed goals by prioritizing belonging and proactively removing barriers that have historically disadvantaged candidates from non-dominant backgrounds (Cumming & Rose, 2022; Council for Exceptional Children, 2024). Together, these rationales make UDL not an add-on but a foundation for equitable educator preparation.

## Historical Context and UDL Guidelines 3.0

UDL has a four-decade history rooted in the universal design movement in architecture. In the 1980s, Ron Mace demonstrated that physical environments designed for the widest range of users (featuring curb cuts, ramps, and automatic doors) benefit everyone, not just people with disabilities. CAST translated this insight into education in the 1990s, releasing the first UDL Guidelines and shifting focus from individual disability to curriculum barriers as the right unit of analysis. Federal policy endorsement followed in the 2000s with explicit recognition in IDEA 2004 and ESSA 2015. After 2015, UDL expanded significantly into postsecondary and educator preparation settings. Researchers and practitioners recognized that teacher candidates needed to experience UDL as learners before they could implement it with confidence as teachers. The 2024 release of Guidelines 3.0 brought the most substantial revision in the framework's history, incorporating an explicit equity strand, adding an internalize progression to each principle, and grounding the update in a collaborative process involving diverse researchers, practitioners, and community members (CAST, 2024; Council for Exceptional Children, Teacher Education Division, 2024).

## The Neuroscientific Foundation of UDL

The neuroscientific case for UDL rests on research showing that the brain processes learning through three distinct, highly variable networks. The recognition networks, in the posterior cortex, handle the "what" of learning: identifying patterns in text, images, and sound. Because learners differ in how they perceive and decode information based on sensory ability, language background, and neurological factors like dyslexia, no single presentation format can serve all learners equally. Providing multiple means of representation directly addresses this variability (Boysen, 2024). The strategic networks, in the frontal lobes, handle the "how": planning, organizing, executing, and monitoring goal-directed action. Candidates affected by ADHD, executive function challenges, or anxiety may struggle with timed assessments or complex multistep projects not because they lack knowledge but because the format exceeds their current strategic capacity. Multiple means of action and expression reduce these format-imposed barriers. The affective networks regulate the "why": motivation, interest, persistence, and emotional response to challenge. Shaped by prior educational experience, cultural context, and perceived belonging, these networks respond directly to UDL's third principle. Research in cognitive load theory adds further support: inaccessible formats waste cognitive resources that learners need for actual learning.

## UDL, Differentiated Instruction, and Accommodation

Three approaches are often confused: UDL, differentiated instruction, and accommodation. Differentiated instruction is a responsive teaching practice in which a teacher adjusts content, process, or product during or after planning to meet the needs of identified student groups. It is iterative and student-centered, but it is reactive: it responds to needs that have already been identified. Accommodation is a legally mandated, individually tailored modification for a student with a documented disability, formalized through an IEP or 504 plan. It levels the playing field for specific individuals but does not change the underlying design of the course for everyone else. UDL operates at a different level entirely. It is a proactive design framework applied before instruction begins, building flexibility into the original course architecture so that the widest range of learners can participate without individual modification. The "curb-cut effect" captures this: accessibility features designed for specific needs (captions, flexible submission formats, chunked instructions) benefit every learner who encounters them. When UDL is fully implemented, many individual accommodations become unnecessary because the barriers that would have triggered them have already been designed away (Bergman, 2024; Cumming & Rose, 2022).

## Principle 1: Multiple Means of Representation

The first UDL principle, Multiple Means of Representation, addresses how information is presented to learners. Its purpose is to ensure that all candidates can perceive and comprehend course content by providing varied pathways into the material. Checkpoint 1, options for perception, addresses the most basic level of access: getting information into the learner's cognitive system at all. In practice, this means captions and transcripts for all video content, spoken descriptions for visual materials, accessible document design with proper heading structures, high-contrast visuals, and LMS configurations that support assistive technology. Content that cannot be perceived cannot be learned (CEEDAR Center, 2024). Checkpoint 2, options for language and symbols, addresses linguistic and symbolic barriers for multilingual learners and candidates unfamiliar with academic or professional education conventions. Effective strategies include teaching vocabulary explicitly with plain language and concrete examples before assigning readings that assume it, supplementing text with visual supports such as icons and diagrams, providing translation resources and bilingual supports, and embedding glossaries and hyperlinked definitions directly within course documents so support is available exactly where it is needed (Takemae et al., 2022).

Checkpoint 3, options for comprehension, moves beyond access to address how learners construct meaning. Instructors should activate candidates' background knowledge and cultural assets as bridges to new content rather than treating prior experience as irrelevant. Graphic organizers and concept maps help learners see relationships and patterns in complex material. Scaffolding through guided notes, chunked assignments, and question stems reduces cognitive overload. Worked examples, analogies, and field-based application opportunities support transfer across contexts (CAST, 2024). A practical entry point for faculty is the "Plus One" strategy:

offering just one additional way to access the same content (a podcast version of an assigned reading, a graphic overview of a complex framework, or a short video illustrating an abstract idea) can meaningfully reduce barriers without requiring a full course redesign. Other practical tools include layered syllabi with graphic overviews and video walkthroughs, multimodal content menus that let candidates choose to read, watch, or listen to the same core concept, and weekly learning maps that make the UDL design of the course visible to candidates (Guo et al., 2025).

Principle 2: Multiple Means of Action and Expression

The second UDL principle, Multiple Means of Action and Expression, addresses how learners demonstrate what they know. Its purpose is to develop strategic, action-oriented learners by removing format-imposed barriers to expression and supporting the planning and self-regulatory processes that performance requires. Checkpoint 4, options for physical action, focuses on how candidates physically interact with course materials and submit responses. Traditional higher education often assumes a default mode of interaction (typed text, in-person attendance, handwritten responses) that can pose real barriers for candidates with motor disabilities or chronic health conditions. In practice, Checkpoint 4 means offering diverse input methods including voice-to-text, touchscreen, and switch access; ensuring that all digital materials are keyboard-navigable and assistive-technology compatible; and designing low-stakes practice environments with immediate feedback so candidates build fluency before high-stakes assessment (Queen's University, 2025).

Checkpoint 5, options for expression and communication, addresses the formats used to demonstrate knowledge. A single exam or paper cannot capture the full range of candidate competence. Allowing candidates to choose from written essays, oral presentations, video recordings, concept maps, or digital portfolios to meet the same learning objectives increases both the validity and the equity of assessment. It does not lower standards; it requires clearer articulation of what the assessment is measuring (Rao et al., 2022).

Guideline 6: Executive Functions in Teacher Preparation

Guideline 6 of the UDL framework specifically addresses executive functions: the higher-order mental processes associated with goal setting, planning, monitoring progress, and modifying strategies when needed. These capacities are closely linked to the prefrontal cortex and are particularly vulnerable when working memory is overloaded by managing lower-level skills that have not yet become automatic, or when executive capacity itself is impaired by disability, stress, or lack of familiarity with academic conventions (CAST, 2024). For teacher candidates managing the complex, overlapping demands of coursework, clinical placements, and professional identity formation, executive function supports are not optional accommodations; they are a sound design decision for all learners. Supporting goal setting and planning means providing checklists, project planning templates, and rubrics early in a course so that candidates can visualize the full path to success before they begin. Scaffolding time management through milestone-based deadlines, calendar nudges, and estimated completion times reduces the

cognitive load associated with self-organizing complex tasks. Facilitating self-monitoring through embedded reflection prompts in the learning management system (asking candidates to identify which strategies worked and what they would change) develops the metacognitive awareness that research consistently links to stronger academic outcomes (Theobald, 2021).

Using progress dashboards to visualize growth, allowing "best-of" portfolio submissions, and building in revision windows for mastery further support iterative, self-directed learning. A systematic review of UDL in higher education identified executive function scaffolding as among the most consistently impactful practices for improving completion rates and reducing DFW outcomes across diverse student populations (Barrera & Moliner, 2023).

Principle 3: Multiple Means of Engagement

The third UDL principle, Multiple Means of Engagement, addresses the affective networks of the brain, specifically the "why" of learning. Its purpose is to foster purposeful, motivated learners by optimizing relevance, value, and authenticity across three focus areas: recruiting interest, sustaining effort and persistence, and developing self-regulation. Because learner motivation is shaped by prior educational experience, cultural context, and perceived belonging, no single approach to engagement can serve all candidates equally. UDL Guidelines 3.0 call on faculty to optimize choice and autonomy, foster persistence and community, and develop candidates' coping skills and capacity for reflection (CAST, 2024). Recruiting interest requires connecting tasks directly to candidates' professional identities, career goals, and the communities they will serve. Practical strategies include choice boards and negotiated assignments that allow candidates to select how they engage with content, culturally sustaining texts and case studies that reflect diverse lived experiences, and trauma-informed content warnings with clear alternatives that minimize threats to engagement. As CAST's guidelines note, information that does not attract learner attention is effectively inaccessible, regardless of how well it is organized or presented (CAST, 2024).

Sustaining effort and persistence requires transparent goals, detailed rubrics, and authentic exemplars so candidates can visualize success. Breaking long-term projects into milestones with visible progress markers, fostering peer accountability through collaborative learning structures, and shifting from grading compliance to supporting growth through revision windows all contribute to the sustained motivation that demanding professional preparation requires (Guo et al., 2025). Self-regulation is not an inherent trait but a developable skill, and teacher preparation programs have a particular responsibility to cultivate it. Integrating metacognitive journals, "muddiest point" reflections, and exit tickets makes thinking visible and transfers self-monitoring strategies that candidates can later employ with their own students. Explicitly teaching stress management, modeling healthy work-life boundaries, and providing mastery-oriented feedback that emphasizes effort and growth over compliance are equally important components. Research confirms that candidates who develop strong self-regulation during preparation are significantly more likely to model these strategies in their own classrooms,

thereby interrupting cycles of sink-or-swim schooling for the next generation of learners (Faza & Lestari, 2025; Theobald, 2021).

### Culturally Responsive UDL: Centering Equity in Course Design

UDL and culturally responsive teaching are mutually reinforcing frameworks that, when implemented together, address both the structural and relational dimensions of equity in educator preparation. Fritzgerald (2020) argued that UDL must be explicitly antiracist in its orientation, actively addressing power dynamics and honoring student identity rather than treating flexibility as a neutral technical exercise. Embedding antiracist commitments means leveraging candidates' community cultural wealth and funds of knowledge as essential course content and context, rather than treating prior experience as background noise to be set aside before academic content begins. Validating linguistic diversity by offering resources and assessment options that honor multiple languages and dialects, designing authentic assessments that connect coursework to real community needs, and incorporating texts, case studies, and examples that reflect diverse lived experiences are all concrete expressions of this integrated approach (Fritzgerald, 2020; Takemae et al., 2022).

Critically, this approach requires more than adding diverse examples to an existing course design. It requires candidates to examine bias, policy, and privilege through UDL-aligned reflective practices, and it requires faculty to co-create community agreements and inclusive discussion protocols that ensure psychological safety. A scoping review of pre-service teachers' beliefs about UDL implementation found that candidates who encountered culturally responsive UDL in their own preparation were more likely to hold asset-based views of learner diversity and to apply flexible instructional approaches across their student teaching placements (Cumming & Rose, 2025). These findings reinforce a central contention of this paper: the way we design the preparation experience itself communicates what we believe about the learners we are preparing candidates to teach.

### Designing for Rigor Across Modalities: Portfolio and Authentic Assessment

A persistent misconception about UDL is that offering multiple modalities for demonstrating knowledge necessarily lowers academic standards. The opposite is true: when rigor is properly understood as depth and transfer of learning rather than adherence to a single format, multi-modal assessment design demands clearer articulation of what is being measured and why. Media-agnostic rubrics that assess argument coherence, critical analysis, or professional reasoning (applicable to a written essay, an oral defense, or a podcast) require faculty to distinguish between construct relevance and construct-irrelevant variance. For example, rather than assessing "essay structure," a rubric might assess "argument coherence," a criterion equally applicable to a written paper, a video presentation, or an infographic (Rao et al., 2022). Portfolios and performance tasks represent the most powerful application of this principle in educator preparation. Shifting from single-measure exams to curated artifacts that evidence mastery of professional standards over time allows programs to assess the construct rather than the barrier, evaluating what candidates know and can do, not merely how well they perform under pressure.

Embedding assessment within clinical and field experiences, allowing multiple attempts and revision cycles, and offering diverse submission formats such as video reflection versus written analysis all improve both the validity and the equity of measurement. The practical entry point for programs beginning this work is to allow one additional submission format for one existing assessment, then evaluate whether candidate performance data becomes more indicative of professional readiness (Yang et al., 2024).

## Implementation: Dismantling Barriers Through Systematic Course Design

Translating UDL principles into practice requires a systematic approach to identifying and removing hidden barriers in course design. A barrier audit is a structured review of all course components (content, policies, technology, and assessments) conducted before a course begins with the goal of identifying structural obstacles before they affect student outcomes. Common hidden barriers in educator preparation include rigid deadlines that do not account for life circumstances, text-only content that disadvantages multilingual candidates, timed exams that measure processing speed rather than knowledge, vague rubrics that privilege students already familiar with implicit academic conventions, and costly required materials that create inequitable access. Embedding accessibility statements and community agreements from the first day of class explicitly signals belonging and communicates that the course has been designed with all candidates in mind (CEEDAR Center, 2024). The PDSA cycle (Plan, Do, Study, Act) provides a practical quality improvement framework for UDL course redesign. In the plan phase, faculty identify curricular barriers and set specific equity goals based on candidate data and feedback. In the do phase, they prototype UDL-aligned modules, create flexible assessments, and implement accessible materials. In the study phase, they collect feedback on candidate experience and analyze disaggregated learning outcome data to measure impact. In the act phase, they iterate on design based on findings and scale successful practices through faculty learning communities.

## Technology as a Tool for Access: Digital Infrastructure for UDL

Digital tools can either amplify or undermine UDL goals depending on how they are selected and deployed. A UDL-aligned digital infrastructure begins with foundational access: built-in LMS accessibility checkers such as Blackboard Ally to identify contrast, heading, and tagging issues ; automatic speech recognition with human review for all course videos; alt text for images; high-contrast slides; and readable fonts across all materials. Social annotation tools like Hypothes.is enable collaborative reading, questioning, and peer-to-peer knowledge building that replicates classroom discussion for asynchronous learners. Multimodal submission options through standard LMS tools (allowing candidates to submit evidence of learning via video, audio, or text) support UDL Guideline 5 without requiring specialized or costly platforms. Digital checklists, automated calendar nudges, and visual progress trackers directly support executive function. Technical equity considerations, including designing for low-bandwidth access and selecting privacy-aware tools, ensure that technology amplifies access rather than creating new barriers (CEEDAR Center, 2024; Digital Accessibility Toolkit Canada, 2023).

## Modeling Inclusive Pedagogy Across the Program

A principle that runs throughout the UDL literature on teacher preparation is that inclusive practice cannot be taught through exclusive pedagogy. Faculty who design their methods courses using UDL principles demonstrate by example how barrier removal works in practice; candidates who experience UDL as learners first are better prepared to implement it as teachers. This modeling function extends beyond individual faculty to field placements. By providing professional development focused on UDL indicators and 'expert learner' behaviors, we can ensure mentor teachers provide consistent feedback across all clinical settings. Revising observation protocols and lesson plan templates to require UDL checkpoints asks candidates to identify potential barriers and proactive design solutions before entering the classroom, making inclusive design a habit of professional thought rather than an after-the-fact retrofit (Meza & Heberling, 2025; Yang et al., 2024). Requiring candidates to curate a portfolio evidencing their UDL design decisions, with assessment focused on the rationale for choices rather than on artifacts themselves, serves a dual purpose: it develops reflective practice while providing programs with evidence of candidate competency that is more valid than any single high-stakes measure. A systematic review of UDL faculty training across 20 higher education studies found that specific professional development in UDL significantly increases teaching competence and promotes more inclusive pedagogical practices, underscoring the institutional investment required for meaningful transformation (Espada-Chavarria et al., 2025).

Measuring Success: Outcomes, Challenges, and Scaling

The evidence for UDL is strong and growing. A meta-analysis of 13 experimental and quasi-experimental studies found an overall effect size of 3.56 for UDL interventions, with the largest gains for students with learning disabilities (Almeqdad et al., 2023). Systematic reviews in teacher education found that candidates who received explicit UDL instruction and experienced it modeled in their own coursework were significantly more likely to apply UDL during student teaching and in their first classroom years (Yang et al., 2024). The modeling effect matters: faculty who design and teach with UDL practices demonstrate by example that inclusive design is a professional standard (Meza & Heberling, 2025). Evaluating UDL implementation in educator preparation programs requires a multi-layered set of indicators that capture both process and impact. Student success indicators include course completion rates, DFW rates (Ds, Fs, and Withdrawals), time-to-completion, and licensure exam pass rates. Experience and belonging indicators include engagement surveys, sense of belonging indices, and qualitative data from instructor evaluations. Clinical performance indicators include supervisor ratings on inclusive practice, lesson plan rubric scores evidencing differentiation, and portfolio evidence of UDL design decisions. Program diversity indicators track retention of underrepresented candidates and diversity of licensure completers, which serves as the downstream measure of whether structural barriers have genuinely been removed.

Three challenges consistently emerge in the UDL implementation literature: time constraints, misconceptions, and technology overload. Redesigning courses takes significant faculty time that existing workload structures rarely protect. The misconception that UDL lowers standards or is

applicable only to special education contexts persists in faculty culture despite substantial evidence to the contrary. Learning new digital accessibility tools can overwhelm both faculty and candidates when introduced without adequate support. Evidence-based solutions include providing plug-and-play UDL syllabus and assignment templates that reduce the initial labor of redesign, creating faculty professional learning communities for collaborative peer-supported revision, and implementing a "plus-one" approach in which faculty add one new option at a time rather than attempting comprehensive redesign in a single semester. When UDL expectations are embedded in accreditation standards, course approval processes, and faculty evaluation criteria, inclusive design becomes a program-wide professional expectation rather than a matter of individual faculty motivation (Guo et al., 2025; Westergard & Andreassen, 2025).

## Conclusion

Designing educator preparation with the same intentionality and equity-centeredness that UDL demands of K-12 instruction is not an aspirational ideal. It is the professional baseline that every teacher education program is responsible for meeting. Preparing teachers to teach every student well begins with preparing them in learning environments built for every student's success.

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# Artificial Intelligence's Impact on College Students' Cognition and Mental Health

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**Abstract**

Artificial Intelligence (AI) brings both promises and threats to higher education. The impact is determined by how it is regulated and used. Increased AI use among college students could lead to atrophy in critical thinking, decision-making, analytical skills, and creativity. There are also several mental health issues brought about by AI, such as anxiety, isolation, identity confusion, and AI addiction. Education on AI risks, the design of AI tools to augment cognitive and social skills, and the promotion of human connection and purpose are among the solutions to these issues. Mental health professionals could use AI solutions and tools to increase accessibility, reduce mental health costs, reduce stigma, improve assessment accuracy, and support personalized interventions. However, there are risks to privacy, algorithmic bias, overreliance on AI, misdiagnosis, and a lack of empathy.

**Key Words:** AI, mental health, higher education, cognitive skills decline, AI-related mental health issues

## Introduction

In recent years, media coverage has highlighted both the potential benefits and risks associated with AI. Reports have included predictions regarding AI's capacity to enhance human capabilities, expand access to education and mental health services, and facilitate universal global income, as well as concerns about skills atrophy, job displacement, and industry disruption. Empirical research has substantiated these impacts, illustrating both the diverse applications of AI and the rapid pace of its advancement. In the domains of higher education and mental health, where AI experiments involving human subjects necessitate heightened ethical considerations, it is essential to identify and mitigate potential risks to safeguard individual welfare.

To illustrate these benefits and concerns, the following excerpt presents a conversation between a fictional student and ChatGPT (personal communication, June 2025), along with an example of an adverse outcome.

Q1: My name is Jane, and I'm a 20-year-old full-time student. I'm currently feeling overwhelmed. Could you help me?"

A1: "Of course, Jane. I'm really glad you reached out. When you say you're feeling overwhelmed, can you tell me a little more about what's weighing on you?"

Q1: Are you able to provide therapy?

A2: “I can offer support, guidance, and helpful tools like stress management techniques, self-reflection exercises, and resources - but I’m not a substitute for a licensed therapist or counselor.”

AI-generated resources can be beneficial; however, they are often insufficient to facilitate meaningful change. In some cases, the information provided may be vague or misleading. For example, Associated Press (2024) reports an ongoing lawsuit against the creator of Character.AI after a teenager died by suicide following a conversation with the AI.

### AI Benefits and Risks in Higher Education

Among the benefits of AI in Higher Education, ChatGPT (personal communication, February 2025) mentioned personalized learning, improved student outcomes, increased administrative efficiency, and access to advanced tools and resources.

On the risks side, it included the “atrophy” of students’ critical thinking due to AI, mental health risks of unemployment/underemployment due to automation, and mental health issues likely to be brought about by AI.

### AI’s Impact on Students’ Cognitive Skills: The Decline of Critical Thinking

After conducting a meta-analytic review of 14 articles from reputable databases, Zhai, Wibowo, and Li (2024) concluded that overreliance on AI negatively affects critical thinking, decision-making, and analytical reasoning, as users rely on shortcuts and quick solutions.

Gerlich’s (2025) findings confirmed a significant negative correlation between frequent usage of AI tools and critical thinking abilities mediated by cognitive offloading. His study on 666 participants also showed that younger participants rely more on these tools and score lower in critical thinking than older participants. The findings of this study also emphasize the negative impact of frequent AI use on other cognitive skills, such as decision-making and analytical thinking. Over-reliance on AI systems can also diminish creative thinking, leading students to neglect their own ideas and fostering complacency and disengagement with their studies. These results emphasize the cognitive costs of reliance on AI and the need for educational strategies that encourage critical engagement with AI technologies.

Lee et al. (2025) also investigated the impact of AI use on 319 knowledge workers. Their results showed that higher confidence in AI was associated with lower effort in critical thinking. In contrast, higher self-confidence in the user’s task abilities was associated with greater critical thinking during AI-assisted work.

### Strategies to Prevent the Decline of Students’ Cognitive Skills

In a systematic review, Yeo, Cheok, and Li (2023) outlined the effects of broader digital technology - including AI and social media - on cognitive functions, including attention, memory, decision-making, learning, and critical thinking. Their study not only provided evidence for this adverse impact but also explained the declines in the development of the brain

areas associated with these functions. The authors also highlighted AI benefits, including easy access to information and improved problem-solving efficiency. Digital detox, mindful technology use, engaging in physical activity, training in digital skills, and setting time to focus are the strategies they recommend to maximize the benefits of technology and protect from its detrimental impact.

The IE Center for Health & Wellbeing (2025) discusses strategies to preserve critical thinking in education. These strategies include educational interventions that promote active learning and the critical evaluation of AI content, teaching metacognitive skills to help students assess the reliability of AI outputs, and designing assignments that involve problem-solving exercises without AI assistance. Moreover, balancing AI use through the establishment of ethical guidelines, fostering independent thinking by encouraging students to verify AI-generated content, and engaging them in memory retention exercises, debate, and logical reasoning can reinforce cognitive engagement.

In response to inquiries regarding strategies to counteract the 'atrophy' of students' critical thinking due to AI, ChatGPT (personal communication, February 2025) suggested that instructors and higher education institutions could theoretically mitigate approximately 70–85% of negative cognitive decline through educational interventions. These interventions include integrating AI literacy into curricula, using AI to prompt higher-order thinking, encouraging critical reflection and Socratic questioning, and monitoring cognitive offloading behaviors. When asked about the additional time required for instructors to implement such strategies, ChatGPT estimated that these interventions would result in a total workload increase of 70% to 115% for faculty, aiming to partially offset the adverse effects of AI.

**Table 1**

*Estimated Instructor Workload Increases from AI-Supported Teaching Strategies (ChatGPT, personal communication, February 2025)*

| Strategy | Notes | Notes |
|---|---|---|
| AI literacy integration | High at start, moderate over time | High at start, moderate over time |
| Higher-order thinking via AI | Balanced by AI-aided student drafts | Balanced by AI-aided student drafts |
| Socratic questioning & reflection | High effort due to in-depth engagement | High effort due to in-depth engagement |
| Monitoring cognitive offloading | Needs new policies and reflection tools | Needs new policies and reflection tools |

To address instructor overload and support mental health, ChatGPT (personal communication, February 2025) recommended institutional support with course design, peer groups, and resource hubs; administrative recognition of faculty efforts; mental health support through Employee

Assistance Programs and the normalization of wellness; and self-care strategies such as setting boundaries and taking microbreaks. While these strategies are promising, their implementation requires additional financial resources from higher education institutions.

### AI's Impact on Students' Mental Health

Anxiety and stress due to the fear of missing out, social disconnection, identity confusion, and AI addiction are some of the mental health concerns associated with the use of AI. Different types of research studies revealed them.

Teepe, Glase, and Reips (2023) found, among others, "over the last 50 years", "a significant correlation between the frequency of anxiety and digitalization words ($r = .81$, $p < .001$)".

Moreover, Lițan (2025) used structural equation modeling to analyze the relationship between AI-related technostress and mental health outcomes. The author found that symptoms of anxiety and depression were associated with techno-overload and techno-invasion.

In a randomized controlled trial involving 981 participants, Fang et al. (2025) assessed the impact of different types of interactions (text, neutral voice, engaging voice) and conversation types (open-ended, non-personal, personal) on loneliness, emotional dependence, and excessive and compulsive use of digital devices. They found that Voice-based chatbots initially helped reduce loneliness and dependence more than text-based ones. However, these benefits faded with heavy use, particularly with neutral-voice chatbots. Talks on personal topics slightly increased loneliness but reduced emotional dependence, whereas non-personal topics led to greater dependence among heavy users. Overall, results showed that regardless of interaction mode or task type, higher trust in AI chatbots was associated with increased loneliness, reduced social engagement, AI emotional dependence, and problematic use.

Furthermore, in a series of three experimental studies, Gabbiadini et al. (2024) used a socio-psychological approach. They found that the experimental group reported a higher level of negative emotions compared to the control group when faced with the AI's ability to reproduce human cognitive capabilities. The negative emotions were linked to the perception of AI as threatening human identity, uniqueness, and jobs.

### Interventions to Mitigate Students' AI-Related Mental Health Issues

Public and professional education on AI risks, the design of AI tools to augment social and cognitive skills, and the promotion of reflection, purpose, and human connection are strategies suggested by ChatGPT (personal communication, February 2025) to address the mental health issues arising from AI.

Kellogg & Sadeh-Sharvit (2022) proposed a pragmatic approach to AI augmentation. In addition to exploring benefits and concerns, they identified and recommended solutions for AI-based automation, AI-enabled engagement, and AI support for decision-making. Their solutions include a proactive risk assessment, comprehensive training for professionals using AI tools, task-allocation criteria for humans and non-humans, blended therapy models, workflow redesign,

and professionals' engagement in evaluating AI models. They highlighted the importance of training professionals to understand AI capabilities, limitations, and bias when integrating AI-supported systems.

An example of how AI could contribute to the development of social skills and promote human connection is Hailey, an AI-in-the-loop agent that provides immediate feedback to help peer supporters respond more empathetically to those seeking help (Sharma et al., 2022). A preliminary study found an overall 19.6% increase in peer empathy, with a 38.88% increase among peer supporters who identified themselves as having difficulties providing support.

Another example of an App that encourages purpose, meaning, and self-reflection is MindScape (Nepal et al., 2024). It is a contextual journaling system that integrates behavioral sensing and large language models to generate prompts that invite users to reflect and develop emotionally. A preliminary study with college students demonstrated its effectiveness in enhancing students' well-being.

**Current AI Applications for Mental Health Support**

Graham et al. (2019) reviewed 28 studies investigating AI and mental health. They concluded that AI techniques could significantly help mental health practitioners redefine mental illnesses more objectively compared to the current use of DSM-5, identify these illnesses at an earlier stage, and offer personalized treatments.

Olawade et al. (2024) reviewed and summarized current trends and evaluated both opportunities and concerns. The potential advancements enabled by integrating AI into mental health solutions, along with their challenges, are significant. They mentioned early detection of mental health disorders, the creation of personalized treatment plans, and the use of AI-driven virtual therapists as benefits. Ethical concerns related to privacy, the need to address bias, and the care needed to preserve the human element in therapy are among the challenges that warrant further research, validation, and regulation.

Currently, programs such as Woebot (Woebot Health, n.d.), Wysa (Wysa, n.d.), and Youper (Youper, n.d.) use an AI-driven model to provide mental health and wellness resources. FDA-approved prescription digital therapeutics and non-prescription apps, such as Rejoyn (Rejoyn, n.d.), DaylightRx (Big Health, n.d.), Calm (Calm, n.d.), and Headspace (Headspace, n.d.), are also used to improve mental health.

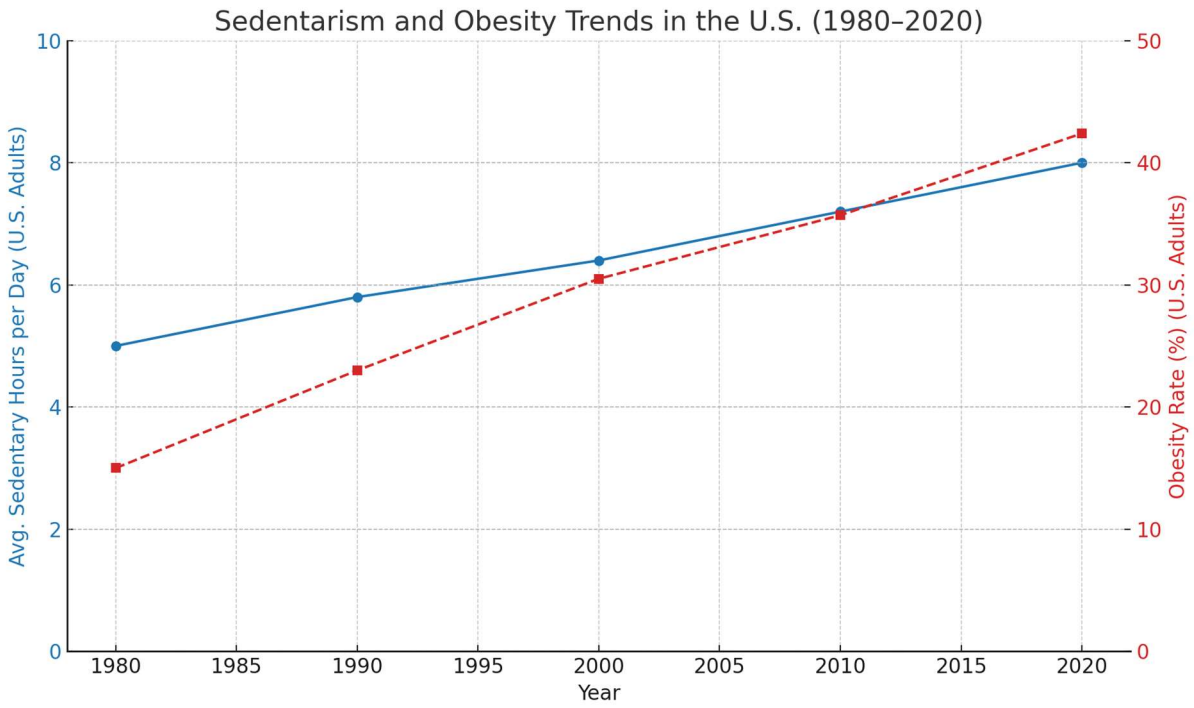
There are several ways to use AI to support mental health and wellness. First, AI can provide personalized psychoeducation. It recommends mental health resources, coping strategies, and mindfulness exercises to help people become aware of their stress and improve their well-being. Additionally, AI analysis of language patterns, facial expressions, or physiological signals could help detect and monitor distress and crises. Furthermore, AI enhances human therapy by summarizing therapy sessions, tracking patient progress, and assisting therapists in diagnosing mental health conditions.

There are still several concerns about the use of AI solutions in mental health. Its ability to provide genuine empathy and to manage complex situations, such as trauma and crisis interventions, warrants investigation. Furthermore, issues related to privacy, ethical use (including confidentiality, data misuse, and accountability in the event of errors), and responsibility need to be carefully documented and regulated. For instance, StateScoop (2025) reports that Illinois is the first state to pass a law banning the use of AI systems for psychotherapy and clinical decision-making. In the event of a violation, the fine could be $10,000.

**Lessons from Past Advancements and Interventions**

Past changes that advanced human and social development have, over time, also been associated with adverse health effects. According to Brannon, Updegraff & Feist (2021), a sedentary lifestyle characterized by watching television, playing video games, working on a computer, and using a mobile device is associated with obesity. Sedentary behavior and obesity have risen steadily among US adults over the past four decades (CDC, 2022a, 2022b). Figure 1 illustrates these trends in parallel, based on data compiled and visualized by ChatGPT (2025).Figure 1

*Sedentarism and Obesity Rates Trends*




Note: The blue line shows the average daily sedentary hours for US adults, and the red dashed line shows adult obesity rates based on CDC (2022a, 2022b) data.

When analyzing interventions that proved effective in engaging people in physical activity, Brannon, Updegraff & Feist (2021) concluded that 70% of US adults do not meet the recommendations for weekly exercise, and informational interventions (media campaigns) have

limited effectiveness. Behavioral and social interventions that teach participants skills and provide social support to adopt and maintain physical activity have proven effective in the short term. In contrast, environmental interventions consisting of access to places that encourage physical activity showed long-term effectiveness.

## Conclusion

AI, like any technological tool, presents both advantages and disadvantages. Overreliance on AI is associated with adverse cognitive and emotional outcomes, whereas intentional AI design and implementation can support the development of social and cognitive skills. AI chatbots, FDA-approved prescription digital therapeutics, non-prescription applications, personalized psychoeducation, monitoring, crisis detection, and administrative support for human therapists are currently available. However, AI remains limited in its capacity to provide genuine empathy, manage complex cases, address privacy and ethical concerns, and assume legal responsibility. Developing best practices, regulatory frameworks, and conducting further research is necessary to maximize the benefits of AI solutions while mitigating associated risks.

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***BOOK REVIEW***

Leah Litman, *Lawless: How the Supreme Court Runs on Conservative Grievance, Fringe Theories, and Bad Vibes*. New York: One Signal Publishers/Atria, 2025. ISBN: 978-1-6680-5462-8. 311 pp. Hardcover, $29.99.

Reviewed by Dr. Samuel B. Hoff; George Washington Distinguished Professor Emeritus; Department of History, Political Science, Philosophy, and Law Studies; Delaware State University; Dover, DE.

The title of the text is indicative of how author Leah Litman regards the U.S. Supreme Court. The combination of unchecked power and eroding norms have transformed the once venerated High Court into a pollical tool of conservatives, leading to a serious reduction in trust and respect toward the judiciary. In response, opponents have demanded reforms which could upset the stability of the courts even further.

A law professor at the University of Michigan, Litman earned a J.D. from that institution in 2010. She served as a legal clerk to a judge on the U.S. Court of Appeals and to late U.S. Supreme Court Justice Anthony Kennedy. Additionally, she has taught law courses at several other schools, including Harvard, Stanford, and the University of California at Irvine. Her record includes extensive publications and presentations on the topic, including co-hosting a legal podcast.

The book's alignment encompasses five chapters bordered by an Introduction and a Conclusion. In the Introduction, Litman accuses the Supreme Court's conservative supermajority with ignoring conflicts of interest, perpetuating political polarization, and catering to a narrow segment of the country. In the ensuing chapters, she demonstrates how these traits have "made their way into different areas of the law" (p. 11).

In Chapter 1, Litman uses the case study of a woman seeking an abortion just weeks after the 2022 Supreme Court ruling in *Dobbs v. Jackson Women's Health Organization* to show the devastating impact of the latter decision, which overturned the half-century precedent established by *Roe v. Wade*. Adpoting the jurisdictional method of originalism, conservative justices have sought to downgrade women's rights by rebuilding outdated power structures, according to the author.

In Chapter 2, the assault against LGBTQ+ rights is described. Though the 2015 Supreme Court ruling in Obergefell v. Hodges furnishes a constitutional right to same-sex marriage, the Court's conservative justices have looked for a way to negate that ruling since. For example, a 2023 ruling upheld the right of a business owner to refuse to make wedding websites for same-sex couples. Litman worries that this and other rulings will heighten discrimination against the LGBTQ+ community.

The material in Chapter 3 depicts how the 2013 Supreme Court ruling in the *Shelby County v. Holder* decision has further weakened voting rights in the United States by removing protections against discrimination. Since that time, other decisions have likewise resulted in reduction in voting rights, particularly those dealing with state authority to redistrict.

Chapter 4 takes the reader from the height of campaign finance regulation

in the form of the 2002 McCain-Feingold law to the Supreme Court decision eight years later which overturned all reasonable limits on corporate contributions to federal campaigns. The author contends that decisions like *Citizens United v. FEC* send the wrong message and stoke fears that the rich are in control of courts as well as elections.

Chapter five traces the growth of the executive branch departments and agencies and how the courts traditionally dealt with disagreements involving interpretation of the law. Instead of deferring to department/agency understanding of the law in most instances—a precedent established in a 1984 decision—the Supreme Court's 2024 ruling in *Loper Bright Enterprises v. Raimondo* overturned that procedure and significantly increased the power of the courts to interpret the law directly in support of the president's conservative agenda. According to Litman, this change is a consequence of "deep state" attacks on the federal government.

Litman advances several strategies for reversing recent court trends in the book's Conclusion. For instance, she offers ideas to get people interested in the current crisis in the courts. Further, she points to recent election victories at the state court level which should mute conservative gains. Yet, she is not adverse to employing more controversial means to protect democracy, such as using Republican tactics back on them or calling for expanded membership on the Supreme Court.

The present text is comparable to several other books published this decade on the same general subject. For example, Linda Greenhouse argues in her 2021 book that a combination of factors have led to a perceived decline in legitimacy toward the High Court. In their 2022 study, Orville Vernon Burton and Armand Derfner critically assess Supreme Court case history pertaining to race. Lawrence Goldstone's 2022 book details the Supreme Court's rulings against voting rights. Further, a troika of books released in 2023—by Joan Biskupic, Stephen Vladeck, and Michael Waldman—all depict the Court's move to the right and its negative impact. Finally, Lisa Graves' 2025 research dissects the Supreme Court's record over the last two decades under John Roberts' leadership.

Clearly, Litman's scholarly background along with her experience in interacting with the media benefitted her ability to present information. She utilizes a direct, in-your-face style, aided by humor and stories from her legal career. But ultimately, the value of the publication turns on the quality of the information. Her criticism of some contemporary Supreme Court rulings relies more on secondary sources than an analysis of the decision's content, a sacrifice evidently made for entertainment as well as education.

Of course, while the entire approach of criticizing conservatives on the court can be viewed as political, the long-term influence of a conservative Supreme Court majority does have legal consequences. While Litman has furnished a piecemeal assessment of how the conservative Court has reversed several rights, future research in this area should seek to contrast the current period with other dominant stretches of where personal rights were similarly retracted.

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***BOOK REVIEW***

# INCARCERTATED WHILE INNOCENT

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Abstract: This is a review of John Grisham and Jim McCloskey's co-authored book, *Framed: Astonishing True Stories of Wrongful Convictions.* The book was published by Doubleday in 2024. The ISBN for the hardcover is 9780385550444. The book has a length of 368 pages.

Keywords: Justice system, prosecution, confession, testimony, evidence, conviction

This book details the causes and consequences of wrongful convictions of defendants in the United States. Highlighting twenty-three persons across ten separate cases, co-authors John Grisham and Jim McClosky hope that the narratives "provide you with a new perspective on the fallibility of our criminal justice system—a perspective that perhaps you didn't have prior to reading *Framed.*"

Both of the book's writers have a long-term commitment toward the topic. Jim McClosk founded Centurion Ministries in 1983, which has successfully worked to free more than seventy persons falsely imprisoned for crimes they did not commit. John Grisham—more noted as a fiction writer—joined forces with Innocence Project, another premier group fighting wrongful convictions.

After a Preface, the book is organized into ten chapters, each telling the story of a wrongful conviction and its aftermath, with five chapters each written by each author.

Though the reasons for the mistakes and malevolent actions resulting in wrongful convictions varied, none were acceptable. For one, racism was a primary factor for prosecution against several defendants, as depicted in Chapters 2 and 5. Second, coerced testimony and confessions were viewed as causing the arrests, trials, and incarceration of persons depicted in Chapters 1 and
8; blatantly false testimony created trouble for defendants in the instances relayed in Chapters 6 and 9; and erroneous eyewitness testimony was responsible for the conviction of innocent individuals in Chapter 4. Third, questionable analysis and testimony by so-called experts likewise led to wrongful arrests and convictions. This is portrayed in Chapters 3 (pathologist and bite-mark), Chapter 7 (bloodstain analysis), and Chapter 10 (arson). Fourth, the writers describe the impact of ineffective public defenders on the justice system. Finally and perhaps most appalling among this litany of lawlessness, the authors document prosecutorial misconduct in Chapters 6, 8, and 9, including hidden or contrived evidence.

Unfortunately, the hoped-for happy ending for victimized defendants did not occur often. In some cases, the government entity which charged the defendant(s) declined to retry them. In other cases, the wrongly convicted person was paroled, but the charges were left to stand. In the most atrocious example furnished by the authors, a man wrongfully convicted
of setting a fire that killed his children was executed.

After the last chapter of the book, Grisham and McCloskey provide sections on acknowledgments and on sources.

There have been four other books on the same topic published in the current century. In 2000, Barry Scheck, Peter Neufeld, and Jim Dwyer depicted cases exposed by Innocence

Project investigations. In 2015, Bryan Stevenson published a case study of a person wrongfully prosecuted. Mark Godsey probed the psychology of wrongful arrests and incarceration in his 2019 text. Finally, Dan Slepian's story of a twenty-five year fight for justice was released within weeks of the current book in 2024.

There are strengths and weaknesses apparent here. Demographically, the examples of defendants portrayed in the book—whether by race or gender—are accurate when applied to ' overall statistics involving wrongful convictions. Ditto for the location of such cases, which overwhelmingly occur in southern states; eight of ten chapters in *Framed* deal with cases there. Further, the authors should be credited with describing the defendants' feelings throughout their ordeals, some of which lasted decades. However, structurally Chapter 9 is much longer than others
and the authors do not provide a concluding section to summarize or synthesize points.

Rather than "astonishing" as part of the sub-title of the current book, better words may be "infuriating" when concentrating on how defendants were erroneously accused, and "inspirational" when reading how they survived nightmares in the American criminal justice system.

## REFERENCES

Godsey, Mark. 2019. *Blind Justice: A Former Prosecutor Exposes the Psychology and Politics of Wrongful Convictions.* University of California Press.

Scheck, Barry, Peter Neufeld and Jim Dwyer. 2000. *Five Days to Execution, and Other Dispatches from the Wrongfully Convicted.* Doubleday.

Slepian, Dan. 2024. *The Sing Sing Files: One Journalist, Six Innocent Men, and a Twenty-Five Year Fight for Justice.* Celadon Books.

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***BOOK REVIEW***

**John Grisham and Jim McCloskey, *Framed: Astonishing True Stories of Wrongful Convictions.* New York, NY: Doubleday, 2024. ISBN: 9780365550444, $30, hardcover.**

This book details the causes and consequences of wrongful convictions of defendants in the United States. Highlighting twenty-three persons across ten separate cases, co-authors John Grisham and Jim McClosky hope that the narratives "provide you with a new perspective on the fallibility of our criminal justice system—a perspective that perhaps you didn't have prior to reading *Framed.*"

Both of the book's writers have a long-term commitment toward the topic. Jim McClosky founded Centurion Ministries in 1983, which has successfully worked to free more than seventy persons falsely imprisoned for crimes they did not commit. John Grisham—more noted as a fiction writer—joined forces with Innocence Project, another premier group fighting wrongful convictions.

After a Preface, the book is organized into ten chapters, each telling the story of a wrongful conviction and its aftermath, with five chapters each written by each author.

Though the reasons for the mistakes and malevolent actions resulting in wrongful convictions varied, none were acceptable. For one, racism was a primary factor for prosecution against several defendants, as depicted in Chapters 2 and 5. Second, coerced testimony and confessions were viewed as causing the arrests, trials, and incarceration of persons depicted in Chapters 1 and

8; blatantly false testimony created trouble for defendants in the instances relayed in Chapters 6 and 9; and erroneous eyewitness testimony was responsible for the conviction of innocent individuals in Chapter 4. Third, questionable analysis and testimony by so-called experts likewise led to wrongful arrests and convictions. This is portrayed in Chapters 3 (pathologist and bite-mark), Chapter 7 (bloodstain analysis), and Chapter 10 (arson).

Fourth, the writers describe the impact of ineffective public defenders on the justice system.

Finally and perhaps most appalling among this litany of lawlessness, the authors document prosecutorial misconduct in Chapters 6, 8, and 9, including hidden or contrived evidence.

Unfortunately, the hoped-for happy ending for victimized defendants did not occur often. In some cases, the government entity which charged the defendant(s) declined to retry them. In other cases, the wrongfully convicted person was paroled, but the charges were left to stand. In the most atrocious example furnished by the authors, a man wrongfully convicted of setting a fire that killed his children was executed.

After the last chapter of the book, Grisham and McCloskey provide sections on acknowledgments and on sources.

There have been four other books on the same topic published in the current century. In 2000, Barry Scheck, Peter Neufeld, and Jim Dwyer depicted cases exposed by Innocence Project investigations. In 2015, Bryan Stevenson published a case study of a person wrongfully prosecuted. Mark Godsey probed the psychology of wrongful arrests and incarceration in his 2019 text. Finally, Dan Slepian's story of a twenty-five year fight for justice was released within weeks of the current book in 2024.

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