SAS®, SAS Coders, and IDEA (Inclusion, Diversity, Equity, Accessibility)

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ABSTRACT

Fifty years ago, SAS coding was in development at North Carolina State University; the establishment of SAS as a business organization was still in the future. At that time, the American population was over 80% White and less than half of eligible women (43%) participated in the workforce. Fast forward to 2022; the American population is now approximately 60% White and over half of eligible women (56%) are in the workforce.

America's population and workforce have changed significantly over the past 50 years. Recently, I started wondering … Where do SAS coders come from? What do they look like? How can SAS and SAS coders support the concepts of inclusion, diversity, equity, and accessibility through their work? Join me on a journey into understanding where SAS is now and where it's headed.

INTRODUCTION

Diversity and equity are common terms in education and business organizations. I have worked on educational equity in higher education as an analyst at Central Piedmont Community College and as a Data Coach for Achieving the Dream. In addition, I have become involved with equity in municipal government through my work with the University of Massachusetts Boston.

In this paper, I first define terms and then explore the intersection of diversity, equity, inclusion, and accessibility with SAS® coders and SAS as an organization. SAS is a global company, with customers and employees across the world. The paper more will focus specifically, however, on SAS and SAS coders in the United States.

WHAT IS IDEA(B)?

As I started exploring IDEA (or DEIA), I realized the concepts of diversity, equity, inclusion, and access(accessibility) are incomplete without "B" for belonging (Fernandes, 2021). In addition, identifying "A" as access is not consistent across organizations or groups; "A" is also used to represent anti-racism. The nuances of term definitions vary across organizations, but the following definitions are representative of what I found (AAM (n.d.); CPCC, (n.d.); Rhoads, 2021):

- **I**nclusion – all group members are valued and respected, and participate fully in all aspects of group tasks

- **D**iversity – a group reflects the variety of audience, community, or larger society, variety includes but is not limited to demographic categories

- **E**quity – group members receive fair treatment, in education also refers to provision of individualized supports such that all students succeed

- **A**ccessibility – all group members are able to participate in the majority of activities and group tasks through individualized modifications or assistance

- **B**elonging – all group members feel valued and respected, and are comfortable participating in group tasks

In general, an organization's level of inclusion, diversity, equity, and accessibility can be

evaluated externally through data collection and analysis. However, a sense of belonging is evaluated by each individual and reflects their unique set of experiences. An organization can reach IDEA goals but without a sense of belonging, employees can still feel invisible and unrecognized.
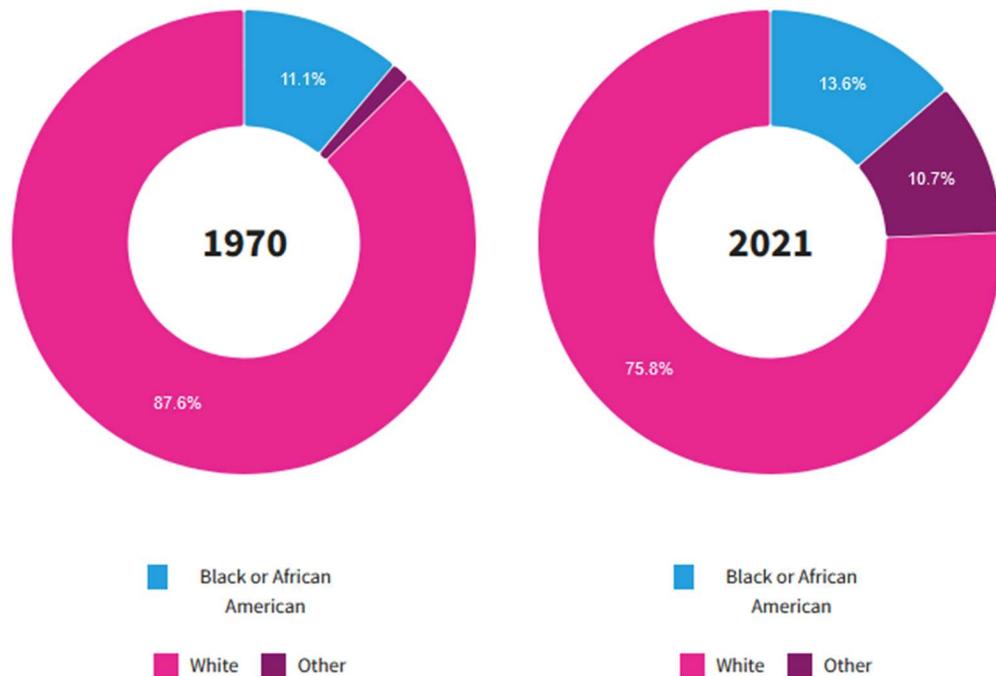
WHY DOES IDEA(B) MATTER?

The incorporation of IDEA(B) within an organization typically requires significant self-examination and self-reflection on the part of leaders and employees, and may result in significant policy and procedure changes. IDEA(B) is a significant investment in terms of time and money. Why should organizations make the investment in IDEA(B)?
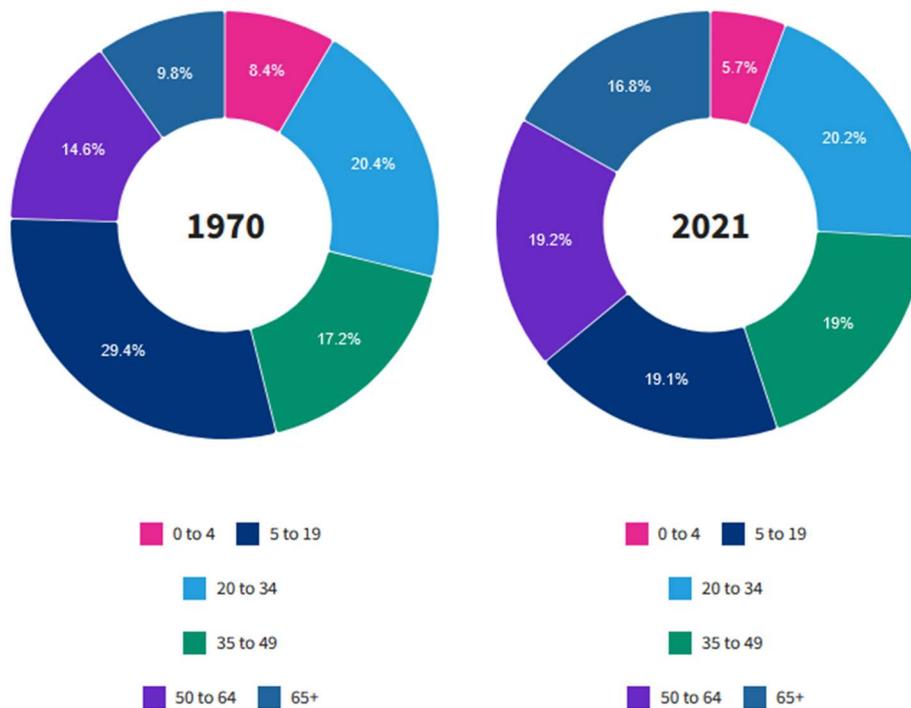
CHANGING POPULATION

IDEA(B) matters because the United States has experienced multiple population shifts within the last 50 years. IDEA(B) work will help organizations and businesses adapt to the changing reality of the US population and workforce.

The US Census expects the country to have a majority-minority population by 2045 (Frey, 2018). According to USA Facts (usafacts.org), the United States has become more racially diverse in the past 50 years as the proportion of white residents dropped from 87.5% to 75.8% (Figure 1). At the same time, the proportion of senior citizens (age 65 and over) increased from 9.8% to 16.8% (Figure 2).

The US workforce has also undergone significant changes in the past 50 years. The proportion of women in the workforce shifted from 43% in 1970 to 56% in 2020 (BLS, 2022). The racial composition of the workforce also reflects the changes in the national population, with a decline in the proportion of white workers and an aging of the workforce (BLS, 2022; Toosi, 2002).

Figure 1. Racial composition of US population, 1970-2021. Image from https://usafacts.org/

Figure 2. Age composition of US population, 1970-2021. Image from https://usafacts.org/

IMPROVED BUSINESS OUTCOMES

IDEA(B) also matters because IDEA(B) is good for business. A variety of companies and publications have issued reports on the benefits of diversity and inclusion (ex; Deloitte, AARP, McKinsey, Harvard Business Review). Positive outcomes of IDEA(B) work include:

- Increased employee engagement
- Increased employee retention (decreased turnover)
- Increased creativity and problem solving
- Increased innovation
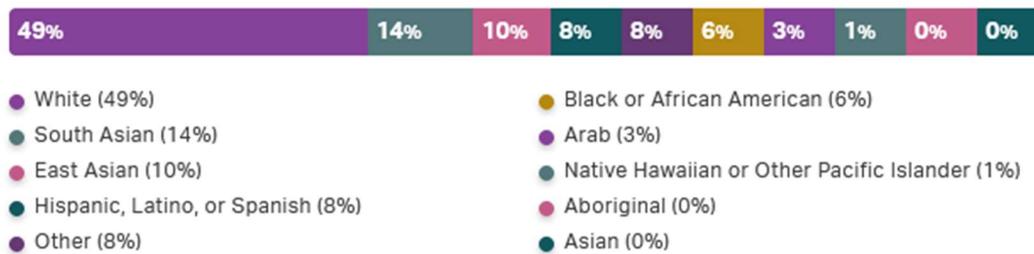- Increased productivity
- Increased profits

(Cigna, (n.d.); Reynolds & Lewis, 2017; UNCP, (n.d.)). IDEA(B) offers businesses the opportunity to expand target audiences and effectively incorporate the changing workforce. The investment in IDEA(B) is offset by improved business outcomes.

SAS CODER DEMOGRAPHICS

The Bureau of Labor Statistics does not collect information specifically on SAS coders so computer programmers are used as a proxy group. Computer programmers are predominantly white males (72% male, 49% white). Nearly 80% of programming roles are full-time positions, with an average salary of $85k (www.careerexplorer.com).

Comparing the demographics of computer programmers and the current US workforce shows women are under-represented within the computer programmer occupation. As Figure 3 demonstrates, multiple race/ethnicity groups are represented in the occupation.

Ethnic Mix, 2019

49%	14%	10%	8%	8%	6%	3%	1%	0%	0%

- White (49%)
- South Asian (14%)
- East Asian (10%)
- Hispanic, Latino, or Spanish (8%)
- Other (8%)

- Black or African American (6%)
- Arab (3%)
- Native Hawaiian or Other Pacific Islander (1%)
- Aboriginal (0%)
- Asian (0%)

Figure 3. Race/ethnicity of computer programmers. Image from https://www.careerexplorer.com

IDEA(B) matters because computer programmers (SAS coders) do not reflect the larger workforce and US population, at least in terms of gender.

SAS AND IDEA(B)

Where does SAS intersect with IDEA(B)? Here are a few examples; for specific details on IDEA(B) work at SAS, explore the relevant links provided.

ACCESSIBILITY

The SAS Disability support center provides resources and information for users with disabilities. In particular, the SAS Graphics Accelerator provides access to digital maps for visually impaired users. (https://support.sas.com/accessibility/)

AWARDS

In the summer of 2022, SAS announced a top score of 100 on the Disability Equality Index. SAS also received a top score of 100 on the Corporate Equality Index, and was named (again) as one of America's Best Employers for Diversity by Forbes. (https://www.sas.com/en_us/news/awards.html)

WITHIN SAS

SAS has a Diversity & Inclusion Action Board in addition to variety of Employee Inclusion Groups. (https://www.sas.com/el_gr/company-information/diversity.html)

INTERNSHIPS

SAS offers a number of internship opportunities, including the United in STEM: Diversity Internship Program for historically under-represented, neurodivergent, and military-affiliated students. (https://www.sas.com/en_us/careers/students-and-graduates/internships-and-fellowships.html)

RECRUITMENT

SAS utilizes recruitment events targeting HBCU institutions, women, minorities, and military personnel. These include the HBCU Career Development Marketplace, Women in Data Science and Statistics, and the Service Academy Career Conference.

EDUCATION

The Education Outreach program encourages students of all types to explore coding and artificial intelligence. SAS developed CodeSnaps kits to develop students' programming skills. In 2021, SAS collaborated with Sphero (www.sphero.com) to provide CodeSnaps kits

to schools for students with visual impairment. SAS has also partnered with AI4ALL to provide hands-on educational experiences for historically under-represented students (https://www.sas.com/en_us/learn/academic-programs.html) (https://blogs.sas.com/content/sascom/2022/08/08/responsible-ai-ai4all/)

CONCLUSION

SAS is actively working within IDEA(B) to create a workforce for today and tomorrow. Through its outreach in recruiting and internships, SAS is working to expand today's workforce. To expand tomorrow's workforce, SAS has partnered with a variety of organizations to bring data science and artificial intelligence experiences to students of all types and ages. SAS's work in IDEA(B) has received repeated commendations. It seems appropriate to conclude with a quote from Jim Goodknight, CEO of SAS:

> We believe a diverse workforce brings unique talents and inspires teams to create software that can change the world. Great minds don't always think alike, so we make it a priority to promote an environment where varied perspectives are encouraged. Big ideas ignite when everyone is treated with fairness and respect.

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RECOMMENDED READING

- *The Inclusion Dividend: Why investing in diversity and inclusion pays off*. (2019, 2nd ed.). Mason Donovan and Mark Kaplan. DG Press.

CONTACT INFORMATION

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