

INDUSTRIAL DESIGN EDU CENSUS

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ABSTRACT

Industrial Design, by its nature, is a collaborative profession and the design process is strengthened when each participant contributes their own unique background and experiences. Since the profession of industrial design is supplied by universities that graduate industrial designers, our team became curious about the demographic break down of educators in terms of true diversity. Currently, there is no such data available on this topic. For this paper we wish to share the methodology behind our industrial design education census, the initial findings from our prototype, as well as our prescriptions on how to achieve greater diversity in industrial design education.

INTRODUCTION

* IDENTITIES
OBSCURED
FOR BLIND
REVIEW



DESIGN IS COLLABORATIVE BY NATURE, AND MADE BETTER WHEN TEAMS ARE DIVERSE.



(the BIG QUESTION) **?** DOES DIVERSE FACULTY REPRESENTATION BOOST the DIVERSITY of the FIELD?

THIS IS IMPOSSIBLE TO ANSWER WHEN WE DON'T KNOW WHO IS AT THE TABLE

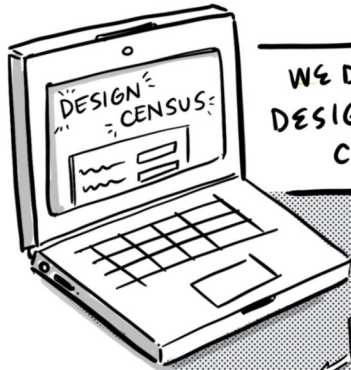


SPECIFICALLY, WHO IS TEACHING INDUSTRIAL DESIGN AT THE COLLEGE LEVEL... MORE OVER



WHO ISN'T? AND WHY?

* THERE IS CURRENTLY NO NATIONAL DATA ON THIS.



WE DEVELOPED A DESIGN EDUCATION CENSUS

A (PROTOTYPE)

AND GATHERED RESULTS FROM A VARIETY OF AMERICAN UNIVERSITIES

? WHAT ARE THE BARRIERS?

HOW CAN WE FIX IT?

IN THIS PAPER, WE WILL SHARE OUR



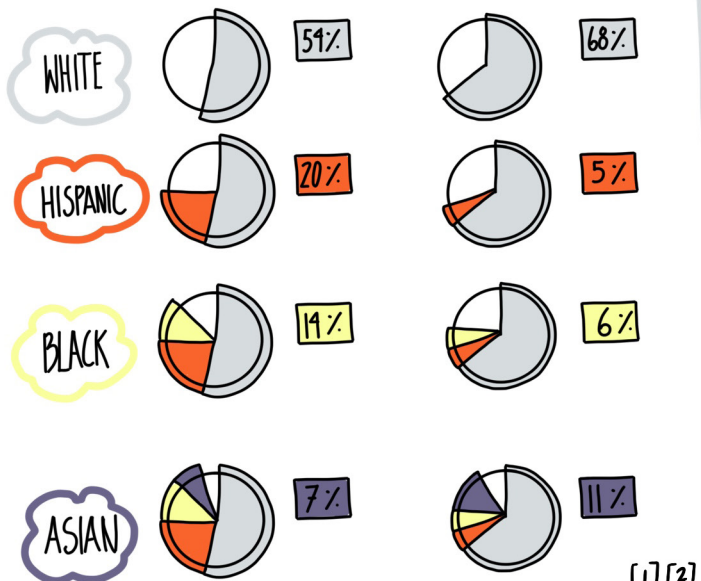
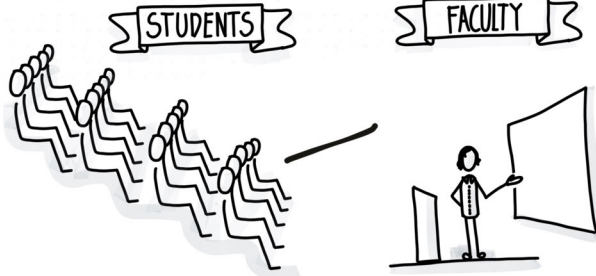


LITERATURE REVIEW

2019

ALL MAJORS POSTSECONDARY U.S. STUDENTS & FACULTY

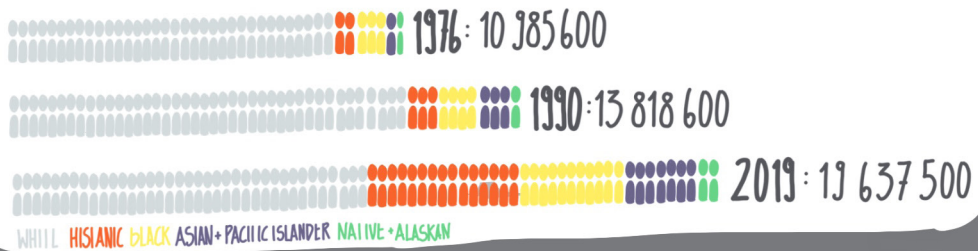
DEMOGRAPHIC DATA OFFERS A SNAPSHOT OF THE STATE OF DIVERSITY IN HIGHER EDUCATION.



[1][2]

NCES.ED.GOV/PROGRAMS/DIGEST/CURRENT_TABLES.ASP

TOTAL FALL ENROLLMENT / YEAR to YEAR (STUDENTS)



[1]

TOTAL FACULTY EMPLOYMENT / YEAR to YEAR



[2][3]



LITERATURE REVIEW



HOW TO STUDY THE EFFECTS OF ETHNIC & RACIAL DIVERSITY?

SINGAPORE



DIVERSE



NON DIVERSE



SINGAPORE DIVERSITY:
CHINESE, INDIAN, MALAY



TEXAS



DIVERSE



NON DIVERSE



TEXAS DIVERSITY:
WHITE, LATINO, AFRICAN AMERICAN



THEIR TASK WOULD BE TO ASSESS THE VALUE OF A SIMULATED (CODE NAMED) STOCK

METHODOLOGY

OPPORTUNITY TO BUY & SELL WITHIN THE GROUP

PARTICIPANTS SUBMITTED THEIR STOCK ASSESSMENT INDIVIDUALLY THEN...



USING REAL MONEY, PARTICIPANTS GOT TO KEEP ANY PROFIT THAT THEY MADE FROM THE TRANSACTIONS

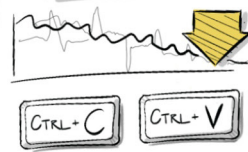
WAS MY ASSESSMENT CORRECT OR WAS I SWAYED BY THE GROUP?

DIVERSE GROUPS



THOSE WHO WERE IN DIVERSE GROUPS WERE 58% CLOSER TO THE VALUE OF THE TRUE STOCK

HOMOGENEOUS GROUPS

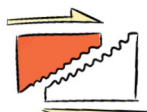


THOSE IN SIMILAR GROUPS COPIED EACH OTHERS ACTIONS TYPICALLY IN THE WRONG DIRECTION

OUTCOMES



NONE OF THE MINORITIES INVOLVED BROUGHT IN ANY "SPECIAL" ABILITIES
* No Hedge Fund Managers



ANALYTICAL THINKING WAS AIDED BY COGNITIVE FRICTION



DIVERSITY PROMOTES SHARPER THINKING & ENHANCES ERROR DETECTION

METHODOLOGY



RESULTS

27
INDUSTRIAL DESIGN FACULTY RESPONDED



THIS IS **NOT** A Big ENOUGH SAMPLE to BE STATISTICALLY SIGNIFICANT



BUT the RESULTS WERE STILL INTERESTING - AND WILL INFORM FUTURE SURVEYS.

OUT OF all RESPONDENTS

2021

IDENTIFIED AS TRANS OR NON-BINARY

NONE

IDENTIFIED AS BLACK



ONE

IDENTIFIED AS BEING A PERSON WITH A DISABILITY

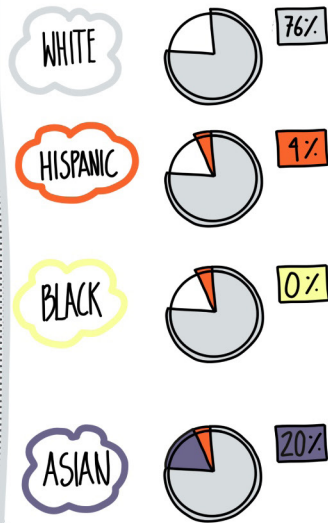
AGES RANGE FROM



FACULTY



FACULTY RANK by GENDER



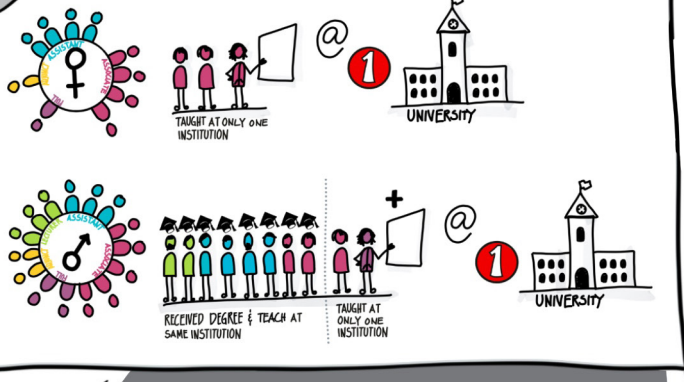
SURVEY RESULTS, 2022

DISCUSSION

OF ALL THE INFORMATION WE COLLECTED, **DEMOGRAPHICS** WERE THE MOST INSIGHTFUL

PATTERNS THAT EMERGED IN THIS DATA SUGGEST BARRIERS TO TEACHING THAT WE DIDN'T PREDICT.

GENDER + HIRING
WHEN LOOKING AT INSTITUTIONS WHERE FACULTY EARNED THEIR TERMINAL DEGREE(S)



AND WIDENING THE LENS TO INSTITUTIONS WHERE FACULTY EARNED THEIR UNDERGRADUATE DEGREE..

"THEN"



PROFESSIONAL WORK



"NOW"



UNIVERSITY A
IS IT A COINCIDENCE THAT MALE GRADUATES WERE MORE FREQUENTLY HIRED BY THEIR DEGREE-GRANTING UNIVERSITY?
@UofA

IT'S NOT UNHEARD OF FOR PROFESSIONALS TO RETURN AND TEACH AT THE EDUCATIONAL INSTITUTIONS WHERE THEY ONCE EARNED THEIR

BACHELORS OR **MASTERS DEGREE!**

OF THE RESPONDANTS THAT SUPPLIED THE INFORMATION... ELEVEN OF THE TWENTY ONE TEACHING FACULTY DID JUST THAT

+50%

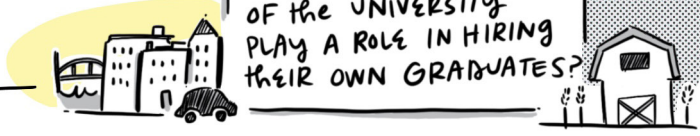
HOWEVER



ONLY TWO OF THAT ELEVEN IDENTIFY AS FEMALE



MIGHT THE LOCATION OF THE UNIVERSITY PLAY A ROLE IN HIRING THEIR OWN GRADUATES?



DISCUSSION

LACK OF DIVERSE RACIAL REPRESENTATION IN INDUSTRIAL DESIGN FACULTY

2019
ALL MAJORS
U.S. STUDENTS & FACULTY

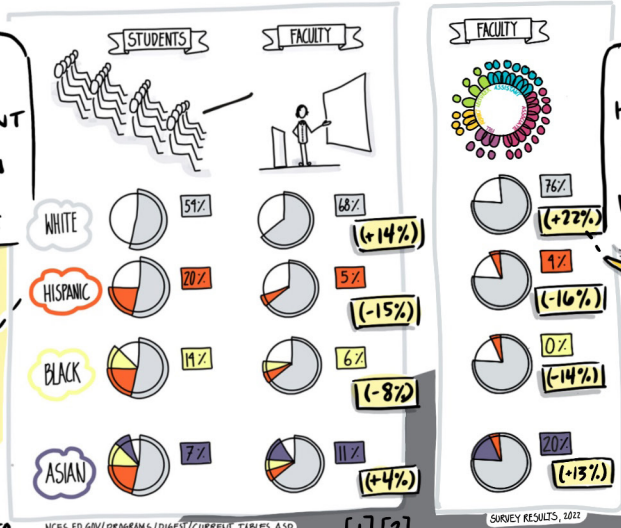
2022
PROTOTYPE SURVEY

3 YEARS
BETWEEN GENERAL POPULATION DATA + OUR SURVEY

THE BIGGEST DISCREPANCY BETWEEN STUDENT + FACULTY REPRESENTATION IS AMONGST HISPANICS



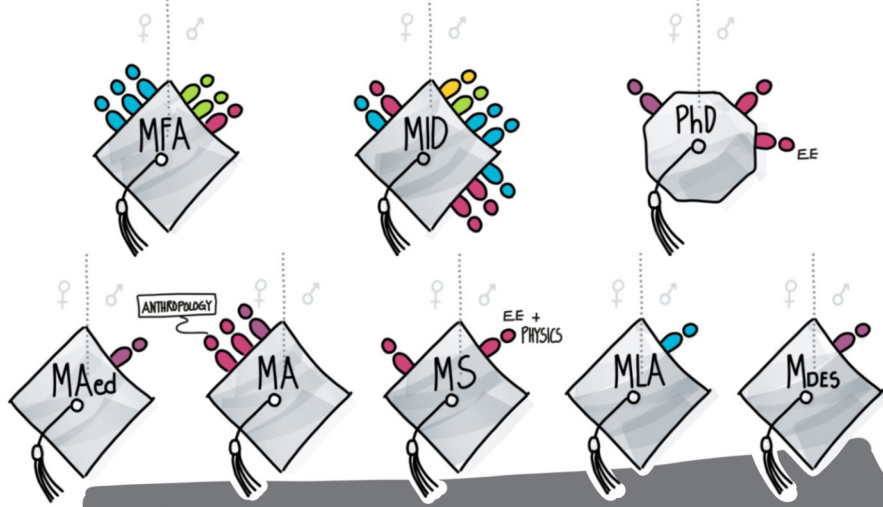
THIS IS DUE IN PART TO THE LARGE POPULATION OF HISPANIC STUDENTS.



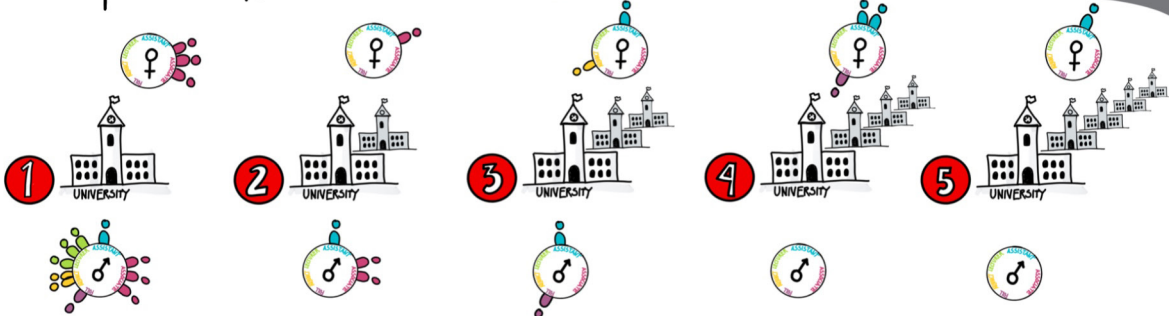
OUR INITIAL SURVEY GROUP HAD SIGNIFICANTLY MORE WHITE REPRESENTATION THAN THE BASELINE STUDENT GROUP.



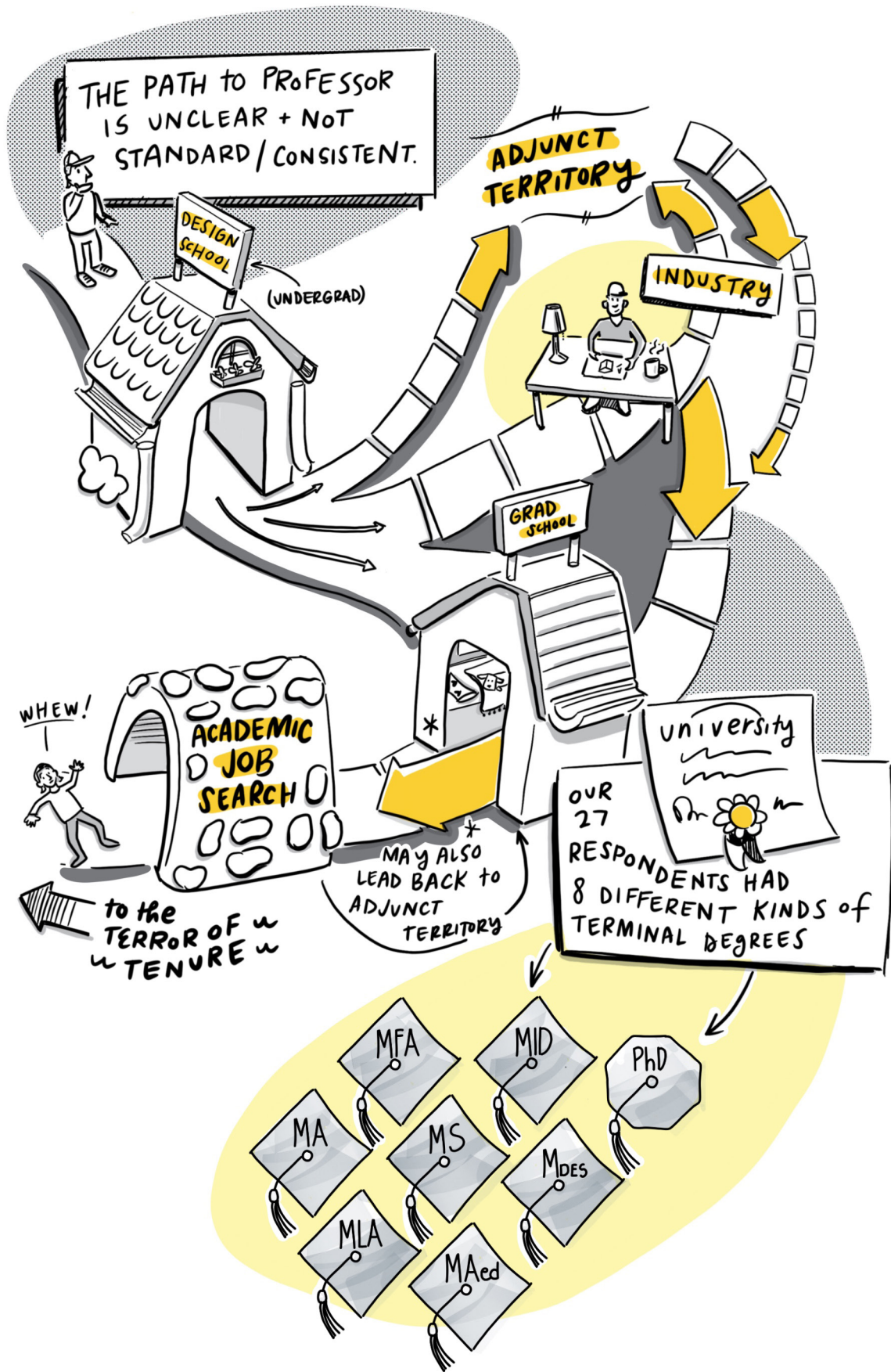
TERMINAL DEGREE by GENDER and POSITION



NUMBER of DIFFERENT INSTITUTIONS of EMPLOYMENT



DISCUSSION

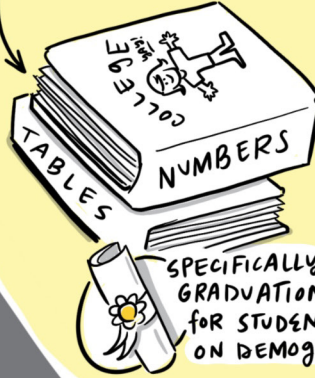


CONCLUSION

EVEN WITH OUR SMALL SAMPLE SIZE, THERE ARE SOME **Big** TAKE-AWAYS.



THERE'S A LOT MORE (PRE-EXISTING) DATA TO DIG INTO



SPECIFICALLY, GRADUATION RATES FOR STUDENTS BASED ON DEMOGRAPHICS

UNIVERSITIES SEEM TO RELY ON HIRING THEIR OWN (MALE) GRADS...

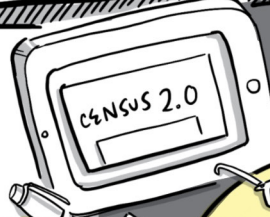


A GRAD STUDENT MATCH/EXCHANGE COULD HELP DIVERSIFY NEW FACULTY HIRES.

IT'S TIME FOR THE DESIGN EDUCATION CENSUS VERSION 2.0



there's so much MORE TO LEARN!



IT WOULD BE HELPFUL TO KNOW WHICH FACULTY HAVE INDUSTRY EXPERIENCE

WE NEED MORE CLEAR OPTIONS FOR REPORTING DISABILITY

IT WOULD BE IDEAL TO ALSO CONDUCT QUALITATIVE INTERVIEWS TO SOLICIT STORIES



AND ASK QUESTIONS LIKE

WHEN YOU WERE A STUDENT, DID YOU FEEL REPRESENTED BY YOUR FACULTY?

AND WE WANT TO GET MANY MORE RESPONSES FROM all OVER the USA

... AND EVENTUALLY the WORLD!

TO BE CONTINUED...

REFERENCES

- [1] Table 306.20. Total fall enrollment in degree-granting postsecondary institutions, by level and control of institution and race/ethnicity or nonresident alien status of student: Selected years, 1976 through 2020.
Available: https://nces.ed.gov/programs/digest/d21/tables/dt21_306.20.asp
[Accessed on 2022, 06 March]
- [2] Table 315.20. Full-time faculty in degree-granting postsecondary institutions, by race/ethnicity, sex, and academic rank: Fall 2017, fall 2018, and fall 2019. Available:
https://nces.ed.gov/programs/digest/d20/tables/dt20_315.20.asp?current=yes [Accessed on 2022, 06 March]
- [3] Table 218. Full-time instructional faculty in institutions of higher education, by race/ethnicity, academic rank, and sex: Fall 1991. Available:
<https://nces.ed.gov/programs/digest/d95/dtab218.asp> [Accessed on 2022, 06 March]
- [4] Levine S. and Stark D. Diversity Makes You Brighter. The New York Times, December 9 2015.
Available: <https://www.nytimes.com/2015/12/09/opinion/diversity-makes-you-brighter.html>
[Accessed on 2022, 05 March]