LANGSTON UNIVERSITY

'A Dynamic Model of Urban Ag Education in the Classroom Utilizing Hydroponics Education'

Presented by:
Dr. Orlenthea McGowan, Professor & Project Director
School of Education & Behavioral Sciences
Langston University-Tulsa Campus

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- This innovative presentation will provide information on how to develop a unique community/school-based model entitled “Urban Ag Education: Utilizing Hydroponics Education

Project Goals

- The integrated project model provides participants with a model to promote and serve the local communities/schools, and address global trends Urban Ag Education.

The projects curricula design (outreach and material development) is an extension deliver/methodology that aims to fosters collaboration between the university, urban schools, and youth-centered organizations.

National Concerns

- State and National research on obesity
- Food Deserts in Urban American
- Student Academic performance in STEM Related Areas

Langston University-Tulsa

- Funded Grants:
  - Learner Center Teaching $297,000
  - Urban Ag Connection $600,000
  - Live & Learn Health & Wellness $600,000
  - Hydroponics Grant $600,000
  - Funded by: USDA - NIFA Capacity Building Grant Program


URBANAG

Teacher Institute

URBAN AG CONNECTIONS
LU-TULSA


WELCOME TO THE
URBAN AG
CONNECTIONS

Foraged…

Prepared…

Dine…

…and dance it all off!!!

Learning and Having Fun

URBAN AG CONNECTIONS
Langston University Tulsa Campus

School Gardens

URBAN AG CONNECTIONS
LU-TULSA

- http://www.youtube.com/watch?v=755k0yRTYpA
- Explore Tulsa Channel.com


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LIONS DEN
LIVE + LEARN
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&WELLNESS


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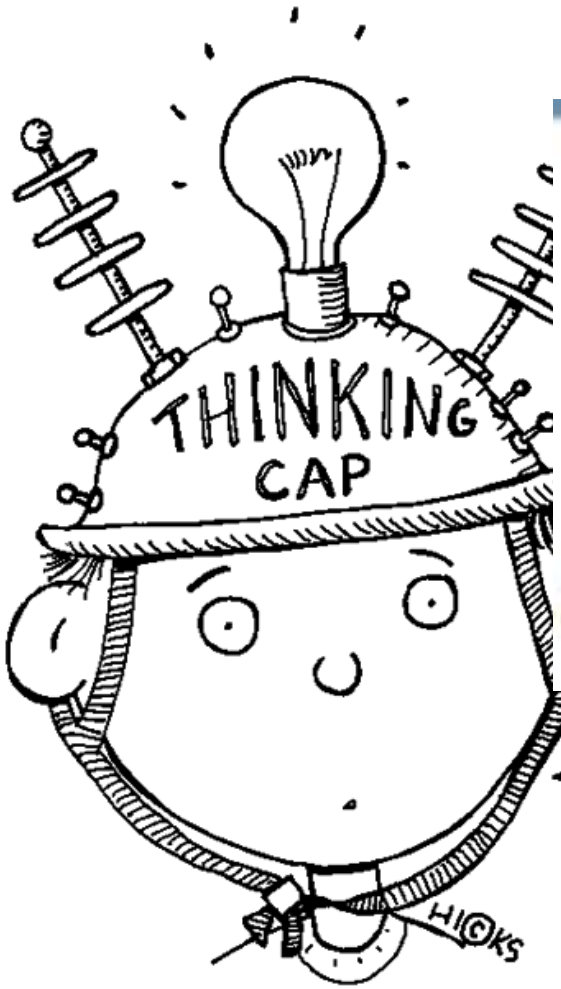
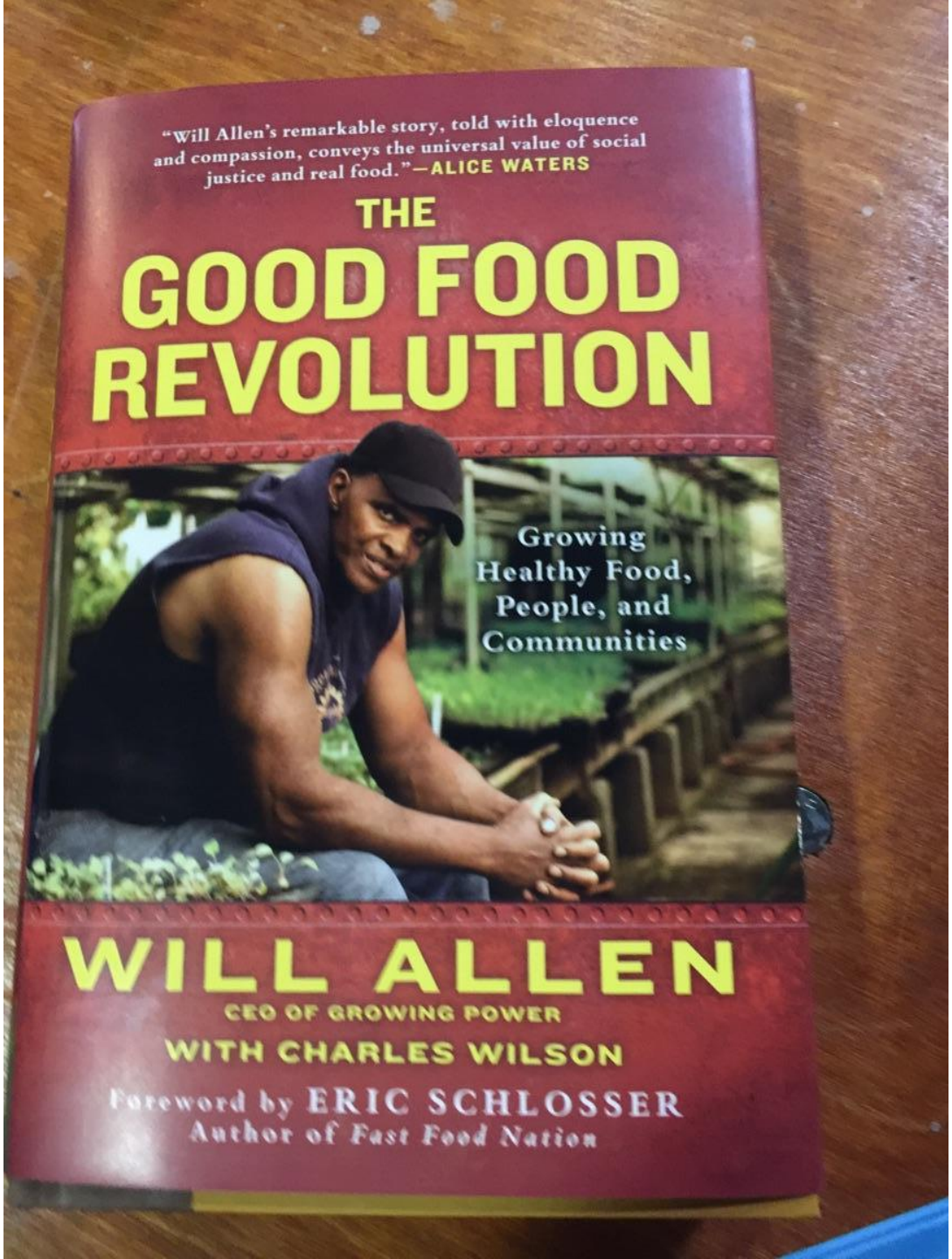
Reflections



WRITING
REFLECTIONS

STEM & Hydroponics Education Project

This Integrated project will equip undergraduate students, teachers, students (middle & High school), and community groups to utilize food production systems, prepare students for college and careers in agriculture and STEM-related fields, and maximize food security in urban communities.


"Will Allen's remarkable story, told with eloquence and compassion, conveys the universal value of social justice and real food."—ALICE WATERS
THE
GOOD FOOD REVOLUTION
Growing Healthy Food, People, and Communities
WILL ALLEN
CEO OF GROWING POWER
WITH CHARLES WILSON
Foreword by ERIC SCHLOSSER
Author of Fast Food Nation


Growing Power National-International
Urban and Small Farm Conference
Building the Good Food
CONFERENCE
NATIONAL-INTERNATIONAL
URBAN & SMALL FARM

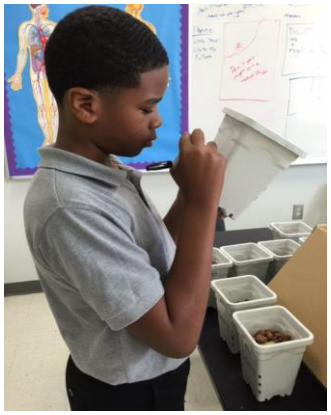
The project objectives will aim to: (1) Re-design an undergraduate course with an experiential and service learning component designed to enhance STEM competencies and understanding of sustainable agriculture and food production systems; (2) Engage high school and middle school (pre-college) students to pursue Ag education, science and STEM related careers via hands-on *experiential learning experiences* exploring hydroponics at six urban school sites and through *internship and entrepreneurial experiences* that will expose students to sustainable agricultural and STEM-related competencies and careers;


LET'S WRITE


Character.org
OKLAHOMA SCHOOL OF CHARACTER
OKCharacter.org

Tuesday, October 25, 2016

James Spicer, Matt, and Meagan arrived at Carver Middle to set up the Hydroponic System. Dr. O. McGowan joined us later. We decided the best place to place the system was in the Science Lab common area. After setting up the system, 6th grade students Christopher and Danial planted seeds (cilantro, spinach, lettuce, etc..) and were trained to care for the system. We discussed the tomato plant in the smaller system. Included in the care of the system was how to care for equipment and check the water nutrient solution. PH balance should be between 6.0 and 7.5.



Each day, Christopher and Daniel will make observations of the drip system, water nutrient solution, drip ring, and water levels. Once a week they will change the water. Bring the new water to the proper pH levels and pour it into the buckets. They will keep observations recorded on the Hydroponic Data Log sheet. Example of the data sheet is below.

Date	pH of Tomato	PPM of Tomato	Adjusted PPM of Tomato	Tomato Ht. (in.) (cm)	pH of Greens	PPM of Greens	Adjusted PPM of Greens	Greens Height (In.) (cm)	Notes

We also discussed the possibility of setting up a system for Jordan Plaza to support the senior citizen.

Hydroponics Data Log

Date	pH of Tomato	PPM of Tomato	Adjusted PPM of Tomato	Tomato Ht. (in.) (m/cm)	pH of Greens	PPM of Greens	Adjusted PPM of Greens	Greens Height (In.) (cm)	Notes


LeRoy K. Jordan Plaza
Senior Housing
630 E. Oklahoma
Sponsored By
First Baptist Church
North Tulsa


LeRoy K. Jordan Plaza
630 E. Oklahoma


EXIT


MCLAIN


06/15/2017


Canon

The Project Model

- This project can be replicated throughout urban and rural schools. It has raised agriculture education awareness among diverse learners in schools. The project emphasized how hydroponics education/food production systems can increase knowledge of Ag Education/food security, and expand outreach to many youth and the community at large.

Resources

- http://www.choosemyplate.gov/10-tips-nutrition-education-series
- http://www.farmtoschool.org/state-home.php?id=10
- http://www.letsmove.gov/
- Contact Information: Dr. Orlenthea S. McGowan
- osmcgowan@langston.edu