Research & Grants Expo

2021

Session 10:30-11:00

Researcher(s)
Providing an Ethical Framework for Smart Learning: A Study of Students' Use of Social Media – **Michele Cole, Louis B. Swartz** – SBUS
Learning through Gaming: finding a better understanding of copyright through play – **Monica VanDieren** – SEMS, **Chad Wertley** and **Andrew Ames** – SIHSS, **Jackie Klentzin, David Bennett**, and **Christopher Devine** – Library
RMU Wellness Center at Center for Hope – **Terri Devereaux, Luann Richardson, Janice Sarasnick, Marian Vendemia** – SNEHS
Process Optimization of the Filament Extrusion for 3D Printing Applications – **Ergin Erdem, Arif Sirinterlikci, Paul Badger** – SEMS
CIS Cyber Scholars: developing a faculty-student mentor model – **Natalya Bromall, Diane Igoche, Karen Paullet** – SIHSS

Providing an Ethical Framework for Smart Learning: A Study of Students' Use of Social Media

MICHELE T. COLE and LOUIS B. SWARTZ

Introduction

Our research focuses on the use of smart technology, specifically social media, for learning.

We are interested in students' perceptions of the efficacy of instructors' use of smart technology and students' thoughts on how technology is used to cheat.

This study presents the results of a series of surveys conducted in 2018 - 2019 with Masters in Business Administration (MBA) and Masters in Human Resource Management (MSHR) students and with undergraduate business law students.

Methodology

- One hundred and eighty-eight graduate and 26 undergraduate students participated in the study.
- Independent samples t-tests were conducted on select questions based on enrollment status, gender, and age.
- Instrument: 30 Question Web-based Survey
  - Established participant profile
  - Examined use of social media:
    for learning
    for cheating
  - Focus on Facebook, Twitter, Snapchat/Instagram
  - Probed views on academic integrity

Participant Profile

Demographics	# Responses	Percent
Academic Level	Graduate - 188 Undergraduate - 26	87.85% 12.15%
Enrollment Status	Part-time-113 Full-time -100	53.04% 46.73%
Gender	Male -109 Female - 105	50.93% 49.07%
Age: 18-24 25-34 35-44 45-54 55+	71 89 39 4 1	33.18% 41.59% 18.22% 1.87% .47%
# Online Courses Taken: First 1-3 4-6 7-10 10+ N/A	37 70 87 24 16 11	17.28% 32.71% 40.65% 11.21% 7.48% 5.14%

Results

RQ 1. How do students view academic integrity in smart learning? Three survey questions examined:

- Q13. My personal feelings toward any type of cheating or academic dishonesty is (one of six possible responses) *159 students /74.3% -- always wrong and unethical*
- Q14. If you saw one or more of your classmates cheating you would (one of five possible responses) *86 students/40.19% would ignore it*
- Q24. Do you think that acts of academic dishonesty are more prevalent in the online environment than in a classroom setting? *109 students/50.93%- "no"*

RQ 2. How effective have students found the use of social media for e-learning?

On a scale of 1-5 with 1= very effective

Social Media	Responses	Effectiveness Rating
Facebook	18	2.667
Twitter	27	2.370
Snapchat/Instagram	15	2.600
YouTube	169	1.266
Blogs	61	1.656
Google Docs	95	1.568
LinkedIn	32	1.615
Wikis	22	2.136
Google+	27	1.815
Other (e.g., TED Talks)	17	1.824

Discussion and Conclusion

* Change - happening rapidly in all areas of life
* Smart technology - evolving rapidly,
  - confounding the challenges in maintaining AI
  - failure to incorporate an ethical framework = minimizing effectiveness of e-learning & decreasing value proposition (Al Hamad & Al Qawasmi, 2014)

* Student population – changing, fewer traditional undergraduates
* Institutions - revising and enhancing their offerings to keep pace with a different market

* Cheating is not more or less prevalent in the online environment – "If people want to cheat, they'll figure out how to do it online or in class. It is irrelevant."

Learning through Gaming: finding a better understanding of copyright through play

Monica VanDieren – SEMS, **Chad Wertley** and **Andrew Ames** – SIHSS, **Jackie Klentzin, David Bennett**, and **Christopher Devine** – Library

This poster is not available for preview.
Please attend the session on March 31, 2021

RMU Wellness Center at Center for Hope

Terri Devereaux, PhD, FNP-BC, Luann Richardson, PhD., FNP, GNP, PMHNP, FAANP, Janice Sarasnick, PhD., RN, CHSE, CHSOS, , Marian Vendemia, M.Ed, Sue Otto

Introduction

- A collaborative partnership between Center for Hope (CFH) and Robert Morris University (RMU) to implement a wellness center to improve access to healthcare for the underserved clients of CFH. Opened September 2019.
- The Center for Hope is a 501©(3) ecumenical, faith-based charity located in and serving the low-income population of Ambridge, PA. Their mission is "To help our Ambridge neighbors in need to break the bonds of poverty, and lead independent lives." They offer programs that help each client develop his/her body, mind, and spirit.

Goals

1. To promote health and wellness of clients through navigation assistance in order to access the appropriate level of care (Current evidence suggests that providing access to appropriate care decreases emergency room visits and cost to the community).
2. To provide RMU nursing students experience working in a community health center (RMU BSN and DNP students will gain invaluable experience providing care to a diverse and underinsured population, therefore providing contextual learning opportunities to address the social determinants of health).
3. To develop a program for other food pantries and community centers to emulate (This cost-effective model for promoting health and wellness at community centers during food pantry hours has the potential to be modeled by community centers across the nation).
4. To develop outcomes based data that demonstrate the efficacy of this approach in meeting community health needs.

Results

1. 320 clients attended 4 educational sessions provided by BSN students (on hold due to covid-19 restrictions)
2. 124 BSN students had experiential clinical opportunities 2019 and 2020
3. -97 clients have been seen at the Wellness Center for care by NPs September 2020-March 2021
   -Care provided in parking lot since March 2020 due to covid-19 restrictions. 49 new patients accessed care.
   -Total unduplicated patients 146.
4. Health liaison had 45 encounters to coordinate care for:
   - 13 Primary Care referrals
   - 7 Behavioral Health referrals
   - 4 Dental referrals
   - 3 appropriate Emergency Department referrals
   - 1 Skilled Nursing/Rehab referral
   - 2 Housing referrals
   - 2 CareerLinks referrals
   - 473 post-covid phone calls to clients to continue engagement

Conclusions

1. Underserved population at Center for Hope do access care at the RMU Wellness Center despite covid-19 restrictions
2. Goal of 140 patients has been exceeded despite covid-19 pandemic
3. RMU Wellness Center care has successfully adapted to covid-19 restrictions
4. Care coordination and education have enhanced client engagement
5. BSN students provide support and education to underserved populations
6. Nurse practitioners have the capacity to lead, assess, and coordinate care teams
7. This model improves access to care and provides undergraduate nursing students educational/clinical experience

Presented at the 2019 R&G Expo @RMU

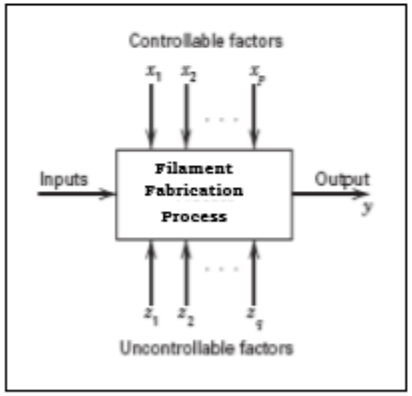
A Study on Process Capability for the Filament Extrusion Process for 3-D Printing Applications

Ergin Erdem, Arif Sirinterlikci, Paul Badger
Robert Morris University.

Introduction

We focus on developing a process optimization based approach for improving parameters associated with filament fabrication. The filament might be used with downstream 3D printing processes (e.g., Fused Deposition Modeling-FDM). For achieving this objective, two performance measures are adapted, In addition, tensile testing is also conducted.

Figure #1

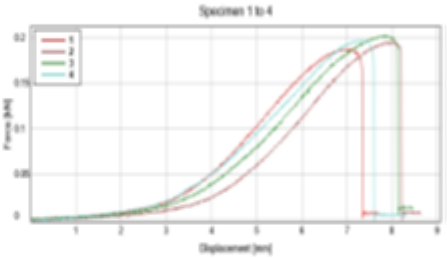


Methods

The study is based on testing the properties of filaments obtained from different polymer chemistries. These are acrylonitrile butadiene styrene (ABS), polylactic acid (PLA), low density polyethylene (LDPE), high impact polystyrene (HIPPS), polyphenyl ether (PPE). The source of the raw material (virgin vs recycled) is also studied for the PLA and ABS. The accuracy and the precision measures on the diameter of the extruded filament are developed based on the online digital caliper measurement and elongation and tensile strength tests are performed. .

Figure #2

Figure #3



Results

Based on the online measures there is no significant difference in terms of precision and accuracy between the virgin and the recycled counterparts for the PLA. It turns out that the same does not hold true for the ABS, and the filament obtained from the recycled ABS fares worse as compared to virgin ABS. The performance of HIPPS, PPE, and LDPE on selected performance measures are compatible with each other but worse than the PLA counterparts, and better than recycled ABS.

Conclusions

Based on the tensile testing, it has been indicated that in terms of ultimate tensile strength, significant differences exist between the samples for the recycled ABS and recycled PLA. For the counterparts obtained from the virgin materials, the differences in the tensile stress are smaller, albeit significant. The tensile strength properties are also included for the filament T-Lyne™ as the control group. Significant differences exist in terms of ductility. As a future study, a design of experiment based approach will be adapted for the process optimization based on polymer chemistry, extrusion temperature, and the source of the polymer to recommend the optimal process parameter for improving the quality of the filaments.

Presented at the 2021 R&G Expo @RMU

CIS Cyber Scholars: Developing a Faculty-Student Mentor Model

Diane Igoche (SCIS), Natalya Bromall (SCIS) and Karen Paullet (SCIS)

NSF Award #1834083

NSF-TUES Award # 1834083

Introduction

The Computer and Information Systems (CIS) Department has establish the CIS Cyber Scholars Program to equip low-income, academically talented community college transfer students with a demonstrated financial need with the financial, academic and practical support to advance into STEM careers or graduate school.

Objective 1: Recruit 30 low-income, academically talented undergraduate students into the CIS Cyber Scholars Program.

Objective 2: Through the CIS Cyber Scholars Program, 100percent of scholars will graduate with a STEM degree.

Objective 3: Through the CIS Cyber Scholars Program, 90 percent of enrolled scholars will enter STEM careers or graduate programs.

Objective 4: Institutionalize effective practices to support transfer students which promote their success in computing majors and careers.

Supporting CIS Cyber Scholars

Faculty-Student Mentorship Model

IntegrateRMU Course

- Specialized Orientation Student Seminar
- Identify existing support structures
- Form peer networks
- Discuss pathway to graduation and beyond
- Design tentative course trajectory

Active Learning Component

- Cyber Forensics
- Data Analytics
- Information Security and Programming

Program Evaluation

Cohort 1 – 2019/2020

* Six students accepted and started RMU for the 2019-2020 academic year.
* 100% retention after one year in the program.
* All students maintain high GPA (> 3.0)
* All students in the cohort are highly satisfied with the program
* Most students in the program successfully combine work and studies
* Evaluation and feedback will continue throughout the program

Challenges Faced in 2020/2021

* Pandemic
* Need to expand the program to include non-rural colleges
* Re-thinking the recruiting strategy

Presented at the 2019 R&G Expo @RMU

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