Evaluation of Factors Influencing Online Graduate Student Progression to Completion of the Capstone Project and Degree - A Model for Graduate Student Success

FRIDAY, MAY 31, 2019
11:45a - 12:15p
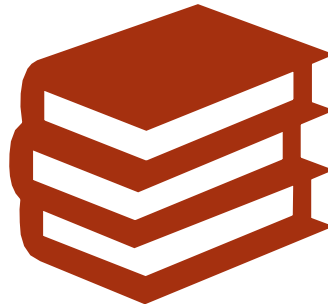**DESIGNING EFFECTIVE TEACHING-LILLY CONFERENCE — BETHESDA, MD**
MAY 30- JUN. 2, 2019

Janet Reid Hector, EdD, RD; Albert Heuer, PhD, MBA, RRT, A.J

Jodie Prestholdt, MS, BSMT(ASCP), CT(ASCP; Scott J. Parrott, PhD

Rutgers University ,Biomedical & Health Sciences -School of Health Professions, Newark, NJ

Researchers

Primary Investigator

Janet Reid-Hector Ed.D RD

Asst. Professor Healthcare Management

Interim Director, MS in Healthcare Management Program

Co-Investigators

Albert Heuer, PhD, MBA, RRT, RPFT, FAARC

Professor-MS in Healthcare Management

Rutgers - School of Health Professions

Department of Interdisciplinary Studies

Rutgers University, Biomedical & Health Sciences-SHP

Jodie Prestholdt, MS, BSMT(ASCP), CT(ASCP)

Adjunct instructor, Interdisciplinary Studies

Rutgers University, Biomedical & Health Sciences-SHP

James Scott Parrott, PhD, Director

School of Health Professions Methodology and Statistics Support Team

Professor-Department of Interdisciplinary Studies

Rutgers, School of Health Professions

Adjunct Professor-Department of Epidemiology

Rutgers, School of Public Health

Learning Objectives

Evaluate — Evaluate an area of pedagogy that is not well understood

Identify — Identify factors that facilitate or inhibit online graduate student progress and time to degree completion.

Evaluate — Evaluate lessons learned from a 3-year pilot intervention, explanatory, mixed-method study, with multi-modal data collection.

Discuss — Discuss Implications for promulgating graduate student success.

Describe — Describe guidelines for future research.

Abstract

►**Evaluate** students' perceptions of facilitators and barriers to progress in completing the culminating Capstone Graduate Project (GP)as the final requirement for graduation.

►**Assess** the impact of a Structured Graduate Project Course (SGP) course on student progress.

► **Research Design** 3 –year explanatory mixed-method study of health professions online graduate students.

► **Qualitative and quantitative data Analysis**

► six major factors that facilitated student progress and success in timely completion of GP

► five factors students perceived as hindering success for timely completion of their project

► More research required on institutional requirements that support online graduate education and promote success for online master's graduate students.

Introduction & Research Problem

•►On-line MS degree education has highest growth Velocity

•►largest segment of US graduate education

•►Time-to-degree-completion (TTDC) varies.

•►Student progress slows in final phase of degree completion known as capstone or thesis project.

•►↑ TTDC & delayed capstone/thesis progress have deleterious effects on graduate students and colleges.

•►For students: forgone professional opportunities, erosion of morale and psychosocial well-being.

•►For schools:

↑higher attrition,

↑ burden on faculty

◆◆ loss of reputation / tuition revenue.

••►Pedagogical Research Problem

••►Despite substantial impact on students & Colleges, little is understood about factors influencing online graduate student progress.

••►Dearth of literature inhibits creation and implementation of strategies to foster student progress and success

••►Sparse research = unexplored aspects of graduate student progression.

The Rutgers University, School of Health Professions (SHP) MS in Healthcare Management (MSHM) Program-Research Setting & Objectives

Graduate students pursuing the MSHM, a 36-credit, fully online degree program	15 -week blended learning structured GP course initiated in 2015	••►To facilitate student progress through capstone & degree requirement.
••►Challenges with students' timely completion of capstone GP & overall degree ••►TTDC varies from 2.5 - 3.5 years. ••►Students spend average of 1.1 years or ⅓ of their time in the program completing the final 6 credits for their GP.	••► Combining asynchronous on-line course structure with real-time interactive teaching strategies Live webinars ••►Live virtual office hours• ►↑ faculty/student interaction	•Technical competencies emphasized in SGP to help overcome thesis block: Selecting & narrowing topics. Creating hypotheses, research (PICOT) questions, aims & goals. Scholarly writing strategies. IRB submission/approval.

Research Design & Methods

1

Mixed method design targeting all (N=57) students enrolled in GP course.

Multi-modal approach for 3-years data collection (2015- 2018).

2

Questionnaire - open-ended questions and Likert scale items via Qualtrics survey

◊**Academic performance indicators-participant academic records.**

3

Based on conceptual models of *graduate degree progress.*

Questions extract student perceptions of facilitators & barriers in three domains:

◊*course characteristics,*

◊*family/workplace*

◊*individual*

Girves & Wemmerus, 1988, Tinto, 1997, Chiu & Wang, 2008, Duranczyk, 2015).

4

Qualitative responses:

• **Identify academic and non-academic [work/family, or individual level characteristics] students indicated as either barriers or facilitators influencing academic progress.**

• **Not evident in the structured questionnaire responses.**.

Explanatory Mixed Method 3 Year Study

Evaluation of first 3 years of SGP course to determine feasibility & utility of curricular innovation:

Assess components of SGP students found most helpful & identify barriers to their progress.

Determine if student perceptions of facilitators or barriers were associated with objective measures of academic progress.

Aim 1: Determine perceived effectiveness of different components of SGP course in fostering or inhibiting online graduate student progress in completing Capstone GP.

Assess if existing survey measures of factors associated with student progress adequately capture online graduate student experience.

Aim 2: Determine how online graduate student perceptions of coursework, family/ workplace responsibilities or individual characteristics are associated with markers of academic progress

Identify which students find specific components of the course most helpful.

Data Analysis –Qualitative & Quantitative

Likert question responses via descriptive statistics (n / % for items within each domain).

Likert ranked items tested for association with academic record variables using Spearman's r

Post-hoc tests of association among survey responses conducted with SPSS

NVivo qualitative analysis categorized responses

► via open coding

► axial coding •► *categories positioned within conceptual model*

►selective coding •► *extract narrative data from interconnectedness &commonalities of categories*

Thematic analysis identified student and faculty characteristics not identified in prior research or in Likert data,

Discern barriers or facilitators important to students, but not included in the Likert

Results

27 surveys returned; response rate of 47.4 %. 81.5% were female with an average age of 34.1±9.9 years

Participant enrolled in the MSHM program for an average of 3.4±1.4 years.
96.2 % required 2-4 semesters to complete GP.
Average of 14.9±7.4 hours/ week working on GP.

The majority (63.0%) received a performance grade A in the course
40.7% indicated they were satisfied or very satisfied with the SGP course.

Results

- **Student Perceptions of Facilitators and Barriers to GP Progress**
- 70.3% students ►► one-on-one interaction with faculty advisors

Extremely / Very helpful

SGP Course Characteristics

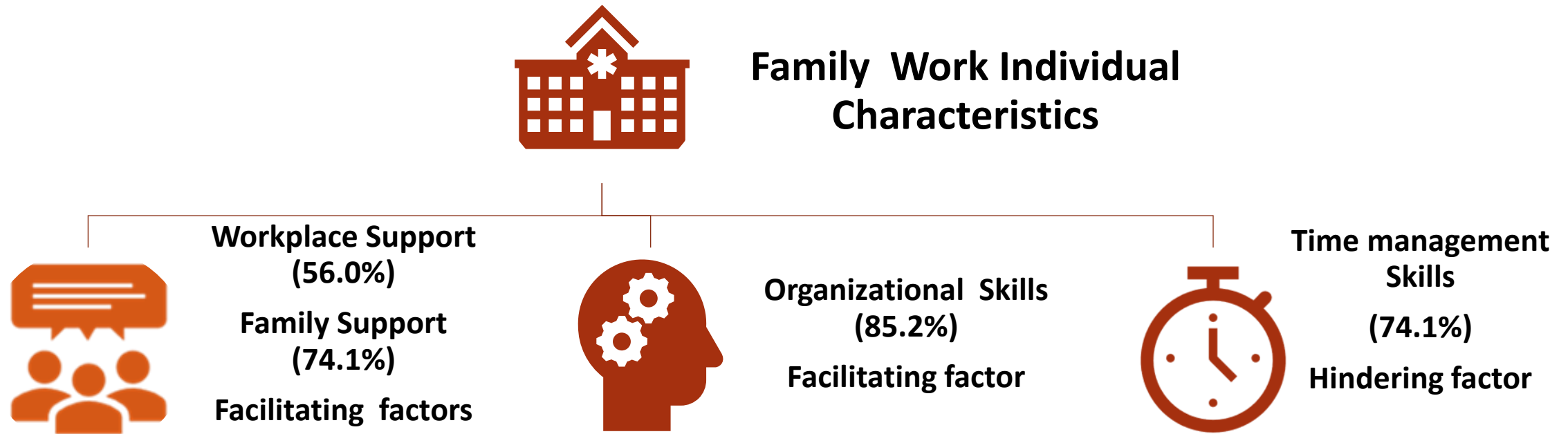**Class materials/ resources**

(62.9 %)

Facilitating factor

Working with mentors (65.9%)

Facilitating factor

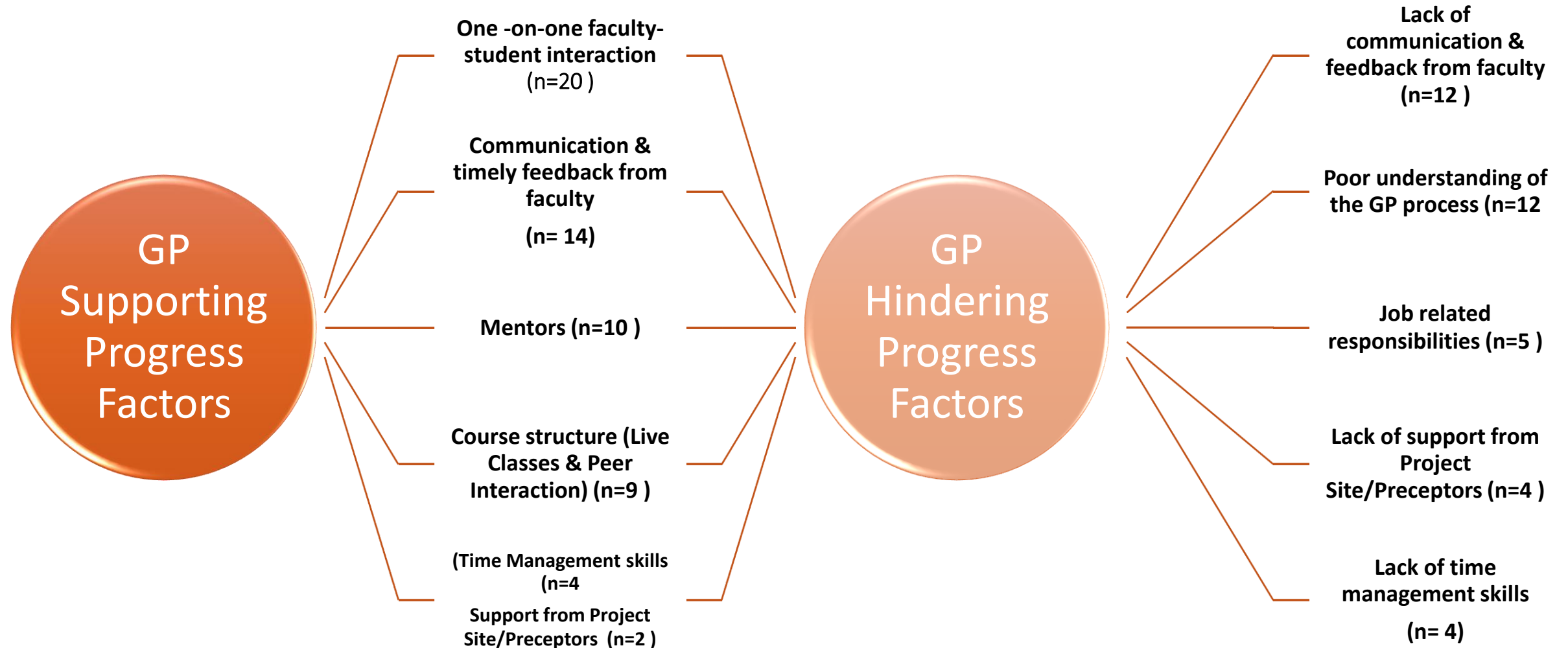**Difficulty Level of the course Hindering factor**

(51.9%)

Results

- →**Student Perceptions of Facilitators and Barriers to GP Progress**

Family Work Individual Characteristics

Workplace Support (56.0%)

Family Support (74.1%)

Facilitating factors

Organizational Skills (85.2%)

Facilitating factor

Time management Skills

(74.1%)

Hindering factor

Qualitative Results – Thematic Analysis

GP Supporting Progress Factors

- One -on-one faculty-student interaction (n=20)
- Communication & timely feedback from faculty (n= 14)
- Mentors (n=10)
- Course structure (Live Classes & Peer Interaction) (n=9)
- (Time Management skills (n=4
- Support from Project Site/Preceptors (n=2)

GP Hindering Progress Factors

- Lack of communication & feedback from faculty (n=12)
- Poor understanding of the GP process (n=12
- Job related responsibilities (n=5)
- Lack of support from Project Site/Preceptors (n=4)
- Lack of time management skills (n= 4)

Convergence/Divergence between Quantitative & Qualitative Student Survey Responses for Facilitators and Barriers of Graduate Project Progress

Convergent Facilitators	Divergent Facilitators
One -on-one faculty/student interaction (subclass): **Communication & timely feedback from faculty)** **Working with mentors** **Time Management skills**	Course structure (Live Classes & Peer Interaction) Time Management skills
Convergent Hindrances	**Divergent Hindrances**
	Lack of communication & feedback from faculty Job related responsibilities Lack of time management skills
Novel Facilitators from Write-In	**Novel Barriers from Write-In**
Support from Project Site/Preceptors	Lack of support from Project Site/Preceptors Poor understanding of the GP process

*Convergent facilitators/barriers: write-in responses that were consistent with items indicated as facilitators/barriers in the survey responses.

*Divergent facilitator/barriers: themes emerged in the qualitative analysis but were not indicated in the survey responses.

*Novel responses were themes from the qualitative analysis not contained in the survey instrument.

Implications for Faculty, Students & Colleges

•►limitations of a single-site with limited (N=) of subjects.

•►Mixed methods design captured complexities of pedagogical research

•►Capitalizing on strengths of both quantitative and qualitative approaches

•►Counterpoising their methodological limitations

•► Potentially valuable implications of this project for stakeholders and future researchers alike..

•► Identified some factors that appeared to support and inhibit online graduate student progress

Implications for Faculty, Students & Colleges

Programmatic and course related Supporting Factors of student progress to complete GP :

•►Direct one-on-one interaction with faculty & mentors.

•►For weaker students, additional components of SGP that facilitated progress included additional live, synchronous interaction with the course instructor and their peers.

•►. •►Enhanced interaction with faculty, mentor (for all students) or peers (particularly among scholastically weaker students) is valuable to mitigate isolating nature of on-line education

•►. •►Help students transition to a more self-directed learning model inherent in a Capstone or thesis phase of the Masters Degree program.

Implications for Faculty, Students & Colleges

Colleges should expand and review their on-line graduate degree offerings.

••►**Recognize benefit of including an element of human interaction in Online Programs, especially in the Capstone / Thesis phase**

••►**Strengthen Students understanding of nature & purpose of the Capstone earlier in their degree program to facilitate progress..**

••►inclusion of regular, structured, live teleconferencing sessions

••►virtual office hours valuable for students with weaker academic records.

••►**Study identified time management a & organizational skills as individual characteristics which facilitate student progress.**

••►**Colleges should evaluate the support provided to on-line, graduate students for these competencies.**

Implications for Future Research

1

•►**This study support the findings on the potentially isolating nature of on-line education (Tinto, 1997),**

•►**Identified human interaction as a remedy to combat this phenomenon**.

2

Illuminated

•►**academic integration (grades, academic self-esteem)**

•►**social integration (level of contact with faculty and enjoyment with college**

•►**key predictors of graduate persistence & retention**

3

•►**Combining both structured & unstructured responses provided insight for future evaluation efforts.**

•►**Future survey aimed at identifying facilitators or barriers modified to consider characteristics that may be both barriers and facilitators**

4

• Both structured and unstructured feedback from students may identify previously unnoticed mitigating factors .

Conclusion

•►**T**he emergence of evidenced-based best practices for digital mode of delivery appears to be lagging, as the prevalence of graduate-level online programs continue to↑

•►**T**his study provides a potential foundation for similar larger studies

•►This study will add to the canon of literature to aid institutions of higher education in identification, evaluation and adoption of e-learning best practices that are of strategic importance to educators and students

Selected References

- Allen, I. E., & Seaman, J. (2008). Online nation: Five years of growth in online learning. Retrieved August 27, 2008, from http://www.sloan-c.org/resources/onlinenation.pdf

- Allen, I. E., & Seaman, J. (2016).Online Report Card Nation Tracking Online Education in the United States Retrieved August February 20, 2019, from https://onlinelearningsurvey.com/reports/onlinereportcard.pdf

- American Institutes for Research (2012), The Institutional Costs of Student Attrition, Delta Cost Project. Retrieved January 4, 2019, from https://deltacostproject.org/sites/default/files/products/Delta-Cost-Attrition-Research-Paper.pdf

- Brewer, P.E., & Brewer, E.C. (2015) Pedagogical perspectives for the online education skeptic. Journal on Excellence in College Teaching. 26(1), 29-52

- Davidson, William, et, al; (2009. The College Persistence Questionnaire: Development and Validation of an Instrument That Predicts Student Attrition. Journal of College Student Development, 50(4); 373-390. John Hopkins University Press.

- Duranczyk, IM.; Franko, J; Osifuye, S; Barton, A M; & Higbee, J. L. (2015) Creating a Model for Graduate Student Inclusion and Success. Contemporary Issues in Education Research, v8 n3 p147-158

- Edelbring, S; Dahlgren, M; & Edstrom, D (2018). Characteristics of two questionnaires used to assess interprofessional learning: psychometrics and expert panel evaluations. BMC Medical Education, 18:40, https://doi.org/10.1186/s12909-018-1153-y

- Girves, J. E., & Wemmerus, V. (1988). Developing models of graduate student degree progress. The Journal of Higher Education, 163-189

- Ho, J. C., Wong, P. T., & Wong, L. C. (2011). What helps and what hinders thesis completion: A critical incident study. International Journal of Existential Psychology and Psychotherapy, 3(2).

- How to mentor graduate Students – A guide for Faculty (2014) University of Michigan –Rackham Graduate School (2014) from http://www.rackham.umich.edu/publications

- Milman, N; Posey, L; Pintz, C; Wright, K; and Zhou, P. (2015) Online Master's Students' Perceptions of Institutional Supports and Resources: Initial Survey Result. Online Learning 4(19) 1-22

- Rennie, D. L., & Brewer, L. (1987). A grounded theory of thesis blocking. Teaching of Psychology, 14(1), 10-16

- Tariq, S., & Woodman, J. (2013). Using mixed methods in health research. JRSM short reports, 4(6), 2042533313479197. doi:10.1177/2042533313479197

- Tinto, V. (1997). Colleges as communities: Taking research on student persistence seriously. The review of higher education, 21(2), 167-17

- Walton, M. (2014). Applying complexity theory: A review to inform evaluation design. Evaluation and Program Planning, 45, 119-126. doi:10.1016/j.evalprogplan.2014.04.002

- Westhorp, G. (2014) Realist Impact Evaluation–An Introduction to Methods Lab. Publication, London. ODI.org/methodslab