STUDENT RETENTION AT TIDEWATER COMMUNITY COLLEGE:

A TECHNICAL AND PROFESSIONAL APPROACH TO CREATING

A COMPREHENSIVE DOCUMENT TO HELP STUDENTS DEFEAT

THEIR OBSTACLES AND STAY IN SCHOOL

by

Frances Regina Thrasher Norge

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Director of Thesis: Dr. Erin Frost

Major Department: Department of English

This study reports on the creation of a condense technical document aimed at helping retain students to completion of their chosen program at Tidewater Community College. Community college students face problems not seen in the traditional four-year university program. TCC provides numerous resources to students ranging from math tutoring to financial issues. The problem is that the students don't know about all of these resources. This study aims to use TPC design theories to produce a tangible product for students to use as an all-in-one resource to help with the problem of student retention. The Theory of Planned Behavior, which suggests that the attitude toward the behavior, the subjective norms, and perceived behavioral controls all play a factor when transitioning between intent and action, pairs well with TPC and this project because it lays the groundwork for the information contained within the final product. I link TPB to student retention at TCC, and with that information use TPC design theories to develop a product to help student retention at TCC.

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APPROVED BY:

DIRECTOR OF THESIS: _____
Erin Frost, PhD

COMMITTEE MEMBER: _____
Will Banks, PhD

COMMITTEE MEMBER: _____
Donna Kain, PhD

CHAIR OF THE
DEPARTMENT OF ENGLISH: _____
Marianne Montgomery, Ph.D.

DEAN OF THE
GRADUATE SCHOOL: _____
Paul J. Gemperline, Ph.D.

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Student enrollment and retention at Tidewater Community College (TCC) has dropped dramatically within the past few years – more so than any other community college in Virginia (Andersen, 2016). Budget cuts are in the works, and retention continues to decline, while the Virginia Community College System (VCCS) searches for retention solutions with limited to no budget (Andersen, 2016). "Raises for state employees and teachers could be on the chopping block after a reported billion-dollar budget shortfall. Governor Terry McAuliffe announced a deficit of $1.2 billion dollars" (Burns, 2016). TCC is no exception. TCC is the largest VCCS school, yet has the lowest retention rate (College, 2016). TCC's graduation rate in 2015 was 14.3%, with the next lowest being the Eastern Shore Community College at 26%, (College Completion, 2016). In the fall of 2017, enrollment at the Virginia Beach TCC campus was 5,687 – down 6.6% compared to last year (Andersen, 2017). Faculty and staff at TCC are being asked to find ways to retain students. In truth we are asked to advertise TCC and persuade students to not take a few classes and drop out, but graduate or transfer at the two-year mark. TCC is not the only institution struggling with retention. Countless studies have been performed on both 4-year and 2-year institutions, and are discussed in the Literature Review.

To this end, this study will link technical and professional communication (TPC) design concepts with the Theory of Planned Behavior (TPB) to address TCC's specific situation by creating a tangible document for students to use as a guide for completing their goals at TCC. In other words, the study aims to help retain students to completion of their chosen program through applied technical communication. Community college students face problems not seen in the traditional four-year university program. Family problems, financial situations and other

factors all but force students to drop out (Student Success, 2016). However, I believe there is help for these students. TCC provides numerous resources to students ranging from math tutoring to financial issues. The problem, I believe, is that the students don't know about all of these resources. They enter college and are inundated with handouts about resources, their program of study timeline, activities, etc. (Student Success, 2016). The sheer number of documents becomes daunting to students; they don't know what resources are available, and they leave the institution (Student Success, 2016). If a concise, manageable document existed that were laminated and could be displayed in a prominent place within the student's home (such as on the refrigerator), I believe this would help students utilize the resources available to them. The decision to laminate the document is important, because it is meant to be used multiple times, and will resist wrinkling and reduce wear. This study links TPB to student retention at TCC, and with that information uses TPC design theories to produce a tangible, laminated, all-in-one handout to help student retention at TCC.

Chapter Two: Literature Review

Student retention at TCC is far below par. By researching the possible reasons students choose to leave the institution using the Theory of Planned Behavior and studies performed at TCC, one can then use Theories of Technical and Professional Communication Design to create a product to help students before and as problems arise.

Technical and Professional Communication Design Theories

Several TPC design theories will be employed to create the final product of this study. Combining these theories will lead me to a more comprehensive handout. User-centered design, typography, use of icons, the use of white space and Quick Scan will each play an important role in shaping the final product.

User-centered design means that the document is created for ease of usability for the reader. "User-centered design is the idea that the best product-design principles are those that support user needs and expectation," (Scheider, 2009, p. 449). The document is catered to the audience. Distributed usability refers more to the moment a student uses the document and becomes aware of its importance. The goal is to reach as many students as possible with a useable document that is both easy to navigate and comprehensive. It also needs to have an easy-to-use design that both accentuates the most-needed resources while keeping the design clean. Karat (1997) defines user-centered design as "the extent to which goals with effectiveness, efficiency, and satisfaction context of use (p. 34). He continues to explain how usability is complex – it takes time to develop the best possible product using a user-centered design.

One of the most important aspects of document design is the typography. Typography is not just about legibility. It is a blending of art and science and can serve a functional purpose. Every choice a graphic designer makes has an effect (Fortis University Blog, 2015). Charles

Gibbons referred to typeface as an art in his study Zealand, Reflections on Developing a Typeface. He described typeface as painting, elegantly developing each typeface with intent.

Eva Brumberger researched different typefaces in relation to the appropriateness of each. She found that Arial was most generally perceived as a professional, "direct" typeface. Brumberger found in another study that readers assign a persona to teach typeface. In her study she found "strong empirical support for the notion that readers ascribe personality attributes both to typefaces and to text passages" (2003b, p. 206).

Another point to consider when designing the document was the use of icons. For the purpose of this study an icon is a symbol. "Despite the fact that icons are widely relied upon for communication, designers have few principles to guide icon design" (Zender & Mejfa, 2013, p. 66). Icons make finding specific information simpler in a document. It is a visual key to the document. Zender & Mejfa found that icon design made a significant difference in comprehension. The duo devised four rules when designing icons. First, "match symbol to definition" Zender & Mejfa, 2013, p. 85). It is imperative that the icon matches the picture the reader associates it with. Second, "add symbols to narrow focus" (Zender & Mejfa, 2013, p. 85). First and foremost, the reason to use an icon is to direct attention to a specific place within the document for emphasis or ease of readability. There is also no steadfast rule on the number of icons within any one document. The third rule is to "create symbol hierarchy" (Zender & Mejfa, 2013, p. 85). It's important to vary the size and placement of symbols. The eye naturally navigates toward a larger icon. The fourth and final rule is to "study failure and improve success" (Zender & Mejfa, 2013, p.85). This does not apply to the exact design or placement of any particular icon, but to rather learn from ours and the mistakes of others.

Rudolf Arnheim, author of *Art and Visual Perception: A Psychology of the Creative Eye* (1954), studied how visuals (art, icons, etc.) influence people psychologically. Arnheim explains the three functions of images. "Images can serve as pictures or as symbols; they can also be used as mere signs" (Barnes, 2009). This information is important to know for document design in that it helps guide the designer in using images as navigation. Three images are used in the finalized document – a dollar sign for financial aid, the Armed Forces insignia, and an open book for academic support. In Arnheim's language, they are symbols—images that stand in for something by portraying some of that thing's characteristcs. Thus, they will be easily recognizable. These images were chosen because they draw one's eye quickly toward them. They were used to place emphasis on the veteran, academic and financial support available to students.

The use of white space is one of the most important aspects of design. In the book *White Space is not Your Enemy*, visual impact is discussed. The books give visual grids and finished products to see the impact of not only visuals, but the lack thereof—considered white space. In general, the authors say to place more visuals at the top of the page. They emphasize the use of quality images with icons and white space, all designed to "point" the reader in certain directions.

The use of whitespace can greatly lead readers to certain areas of a given document. Noel advocates using C. S. Peirce's three-part theory of rhetoric and his ten categories of sign, one can offer an integrated semiotic system, interpreting in one model the effectiveness of graphics, document design, and formatting, all considered as subtypes in this proposed visual rhetoric,

organized around three primary communication goals: to decorate, to indicate, and to inform (2011).

QuickScan is a specific document formation aimed at better navigation and comprehension (Zhou & Farkas, 2010). QuickScan can be used for print or online documents to make them more useable. It "employs within-document summaries formatted as numbered list items. These numbers correspond to numbers placed in the body of the document where the summarized ideas are discussed in full" (Zhouh & Farkas, 2010, p. 197). According to Zhou and Farkas, QuickScan employs four points to make a document easier to read. First, readers can find a summary more easily, and then using the numerical system to find the detailed content. Second, the content builder can also use QuickScan as a summary to previews. Third, QuickScan can be used to quickly find information, and then continue to read if desired. Finally, QuickScan can be used as a map of the document, directing readers to information within the document. There are four visual versions of QuickScan for users to choose. Following the rules of the QuickScan design is paramount for a successfully useful document. "Empirical studies have demonstrated that QuickScan improves comprehension and the ability to navigate quickly through a document … and is regarded positively by readers" (Zhou & Farkas, 2010, p.197). Design, in my opinion, is as important as the information. In this case, the design is especially important, because I want students to keep the document and use it as a reference. The typography, use of white space, icons and general design are all aspects of the final document in this study.

The Theory of Planned Behavior

TPB argues that attitude itself does not always correctly predict human behaviors (Ajzen, 1991). Rather, TPB suggests that the attitude toward the behavior, the subjective norms, and

perceived behavioral controls all play a factor when transitioning between intent and action (Madden, Ellen & Ajzen, 1992). Ajzen (1991) noted:

> Intentions to perform behaviors of different kinds can be predicted with high accuracy from attitudes toward the behavior, subjective norms, and perceived behavioral control; and these intentions, together with perceptions of behavioral control, account for considerable variance in actual behavior. (p. 181)

According to TPB, two factors may influence a person's perceived behavioral control. First, *internal* factors, such as a lack of knowledge or skills, could prevent someone from performing an intended action. Second, *external factors*, such as limited resources or extenuating circumstances, also may inhibit someone from carrying out an intended action (Gass & Seiter, 2015, p. 53).

For example, a student could have full intentions of graduating with an Associate's in two years from TCC. However, an external factor, such as losing one's job, makes it impossible for this student to continue their education. Without a job, they can't afford school.

TPB assumes people make choices as a result of being acted upon by three factors: behavioral attitude, behavioral control and subjective norms (Ajzen, 1991). Behavioral attitudes refer to how much a person is in favor of or opposed to performing said behavior. Behavioral control refers to a person's ability to perform the behavior. Subjective norms are those influenced by society. A person is more likely, for instance, to finish an action that is seen as socially acceptable.

According to TPB, three factors determine intention: attitude, subjective norms and perceived behavioral control. Intention then turns into behavior, depending upon the answers to the three factors within TPB.

TPB also accounts for three belief-oriented considerations: behavioral beliefs, normative beliefs, and control beliefs (Ajzen, 1991). A behavioral belief is what one may consider a likely consequence given their course of actions. A normative belief revolves around what is considered by the person as socially acceptable behavior. Control beliefs are factors which could help or discourage (if not block) a person from turning a planned behavior into an action (Ajzen, 1985).

Each belief affects how a person feels about a particular behavior, which in turn affects behavior. Adding the three (behavioral, normative, and control) leads to what Ajzen refers to as a behavioral intention (1991).

"As a general rule, the more favorable the attitude and subjective norm, and the greater the perceived control, the stronger should be the person's intention to perform the behavior in question...To the extent that perceived behavioral control is veridical, it can serve as a proxy for actual control and contribute to the prediction of the behavior in question" (Ajzen, 2016, n.p.).
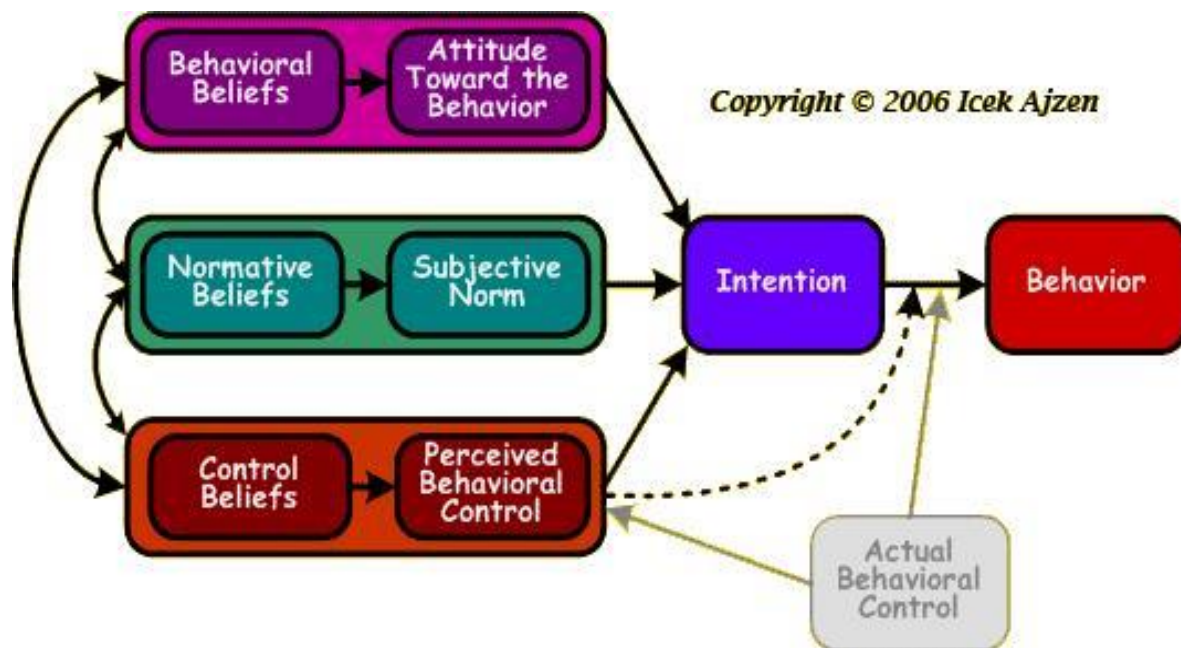
Figure 1.

Image: Ajzen, 1991

TPB assumes that if a person carries an adequate degree of control over the actual behavior, that people should act upon their intentions when the chance arises, and that intention is thought to be the immediate behavioral action. Both the intent and behavioral controls must be taken into account when predicting human behavior (Ajzen, 2013).

TPB can partially predict performance, but there is no checklist in respect to human behavior. The theory does not take into account the readiness of the person performing the behavior, what underlying attitudes and actions could bypass possible intention, and the role of accurate information in relation to the prediction of intentions and behavior (Ajzen, 2013).

TPB and Technical and Professional Communication

TPB possesses research implications within the current context of communication and TPC. Yi Mou (Ph.D., University of Connecticut) researches new media, and Carolyn Lin (Ph.D. Michigan State University) focuses in several areas of communication studies, but specializes in the current uses and effects of new media. Together, they recently co-published an article linking TPB with "perspectives of social influence, interpersonal discourse, and behavioral theory to study new media diffusion (2015, p. 474).

The SAGE Persuasion Handbook states that "The thousands of … studies now in existence address only a limited number of questions and use only a limited number of methodologies" (Yzer, p. 131). The author continues, suggesting two areas of concern for future research "have to do with developing hypotheses about when reasoned action variables will predict which behaviors, and how reasoned action can inform message design" (Yzer, p. 131).

Ajzen is currently researching TPB within three different contexts: the relation between intentions and actions, automatic/habitual versus reasoned behavior, and information accuracy or knowledge.

> "Being hypothetical, intentions tend to overestimate readiness to perform desirable behaviors and underestimate readiness to perform undesirable behaviors…Although incorporating automatic processes, the theory of planned behavior generally assumes reasoned processes underlying attitudes and actions. In contrast, strong and unmediated links between prior and later behavior imply habituation in a process that bypasses intentions…Accurate information is reconsidered necessary for effective action, yet empirical evidence provides little support for a relation between knowledge and behavior" (Ajzen, 2015, p.155).

TPB not only has implications for current research, but research to further explain the links between intention and behavior. Ajzen currently is expanding TPB with three active studies.

The current TPB model is a valuable tool to predict human intention and behavior. TPB was applied to this study where behavioral choices and intentions are involved. Further research is always necessary – the human brain evolves, as does society. Theories, including TPB, are in a constant state of flux. Changes within society, personal beliefs and technology all affect TPB and need to be taken into account. Student situations pertaining to their retention at success at TCC will continue to change. What may affect students now may not affect them in the future. For the purposes of this study, TPB can help determine intention and behavior, despite its limitations (Madden, Ellen, & Ajzen, 1992).

The theory of TPB lends itself well with the design principles of TPC. One basic principle, as stated previously, is user-centered design. "An example of a work product is a usability design and evaluation plan (UDEP). A work product–based UCD methodology is a best practice because the ultimate focus is on tangible outputs and successful outcomes rather than on process and activity" (Friess, 2010, p.18). Friess continues to explain how integrating a UCD is worth both the time and cost because it helps the individual use the document. She ends her article, stating about UCD "use it or lose it!" (Friess, 2013, p. 23).

Quesenbery's Origins of User Experience is best described with the use of a visual (Redish, 2010). Quesenbery believes that the user experience and usability is at the crux of all communication.

Figure 2.

In this respect all communication begins with the user experience and usability. Matching TPB with a user experience that lends itself to usability is paramount to this study. According to Quesenbery and Szuc, the user experience determines the outcome and effectiveness of a document.

The Persona Lifecycle, presented by Pruitt and Adlin, adheres to the belief that user-centered design within technical documents determines if a person will use that product. Olsen, et.al. contend that creating a document toward the entire person lends itself to a more user-center, and therefore useful, design.

Tidewater Community College and Retention

For the purpose of this study, the TPB aspect of external subjective norms affecting the students at TCC are studied. External subjective norms are, for the majority of students, mostly out of their control. Many external subjective norms come from the demographics and circumstances under which a student attends community college.

Community college students run the gamut in terms of demographics. They can be first-generation, non-traditional, reverse transfers, recent immigrants and students planning to transfer to a four-year institution (Stebleton & Schmidtm, 2010). These students often face variables out of their control that hinder their initial collegiate intentions (Stebleton & Schmidt, 2010). For the purpose of this study, these obstacles are considered external subjective norms within the context of TPB. External subjective norms are perceived obstacles which may or may not interfere with

our completion of the intended behavior. For students, external subjective norms could include financial aid, work scheduling, family problems, and so on.

Every college is different. Each faces its own challenges to retention (Student Success, 2016). TCC is no exception. Because the student body is different than any other community college, TCC has researched the obstacles in students' way and problems that may be causing the decrease in retention. TCC's five campuses are scattered throughout an area with a high military population. The largest student age group is 18-24 (Andersen, 2016). TCC is the largest community college in Virginia, yet has the lowest retention rates (VCCS). In the Fall 2017 semester, enrollment at the Virginia Beach TCC campus dropped 11.7% compared to this time last year (Andersen email, 2016).

In 2015 the college began researching which external behavioral norms may be holding students back (Andersen, 2016). The College Student Inventory (CSI), completed in 2016, found that a significant number of students lack study habits, intellectual interests, a desire to finish college, sociability, career closure, a sense of financial security, personal counseling, and a feeling of social enrichment.

The document further defines certain aspects of the survey. Study habits, as defined by the CSI, measures:

the student's willingness to make the sacrifices needed to achieve academic success." Study habits are different than intellectual interests, which measure "how much the student enjoys the actual learning process, not to the extent to which the student is striving to attain high grades or to complete a degree, (CSI, 2016).

The desire to finish college is just that – a student's desire to finish what they started at TCC (CSI).

Many of the other scales measured on the CSI contribute to a student's desire to finish college. Career closure is defined by the CSI as "the degree to which the student has defined a career goal and developed a firm commitment to it." The inventory continues to define career closure as a process of exploration. Students oftentimes begin with broad academic aspirations, and eventually close in on one program. It is an indication to how much academic advising students are receiving (CSI, 2016).

"A sense of financial security measures the extent to which the student feels secure about his or her financial situation, especially as it relates to current and future college enrollment" (CSI, 2016). The scale not only measures the financial aspects of the student, but their ability to use financial resources with regards to schooling. A low score on this scale indicates students are not informed or utilizing financial advisors or assistance (Andersen, 2016).

The school created and executed the Virginia Beach Retention Survey Results in 2016. The survey was distributed to students who did not sign up for classes the next semester and had agreed to the study at the beginning of the semester, before they dropped out; the students were not retained. That survey found the following behavioral controls as obstacles to retention: problems with classes and/or instructors (e.g., content or grades), financial issues (tuition and financial aid, primarily), and personal life issues (e.g., moving, familial responsibilities, and transportation).

With regards to academic motivation, the survey found that 23% of the students who responded found the courses too difficult, 19% reported the course content as unsatisfactory, 46% said the instructors were not approachable or supportive, and 39% of the students surveyed

were dissatisfied with their grades. With regards to grade satisfaction, these results "indicate that the majority of our students wait until the last minute" to complete schoolwork (Andersen, 2016). She continued that the 39% of students who were dissatisfied with their grades probably did not study enough to obtain their intended grade. The Virginia Beach Retention Survey Results also showed that 43% of students experienced class scheduling problems, while 43% found the academic advising inadequate. The study showed that 72% of the students who did not register for the next semester were unable to pay tuition and fees, 29% were unable to purchase books, 20% encountered unexpected expenses during attendance, and that 16% found financial aid inadequate. In relation to personal life obstacles, the study found that 33% of students experienced emotional and/or mental difficulties, such as depression, stress and anxiety, 25% of students found their familial responsibilities too great, and that 38% of non-retained students faced problems with time management and/or life responsibilities conflicting with school. Finally, 23% of students relocated (mostly because of the high military community). With respect to students who work and did not register for the following semester, the study found that 19% of students accepted a full-time job, 19% had their hours changed at work making school more difficult, and 69% of students experiences one or more conflicts between the demands of their job and the demands of school. "Advising is another problem at TCC," (Andersen, 2016). The study reported that 44% of students never met with their advisor, 25% visited an advisor once, and 23% went 2-3 times. While the rates of visiting advisors were low, those who visited their advisors on a more regular basis were more likely to find their services excellent or good (both at 38%).

The other resources at TCC, such as the math lab, tutoring and writing center, Career Counseling, the Student Center and Joint Use Libraries had an 80% usage rate, leaving 20% of

students having no interaction with additional resources. Of those students who used these additional resources, the study found that 80% used the Joint Use Library, 67% the Student Center, 27% the Math Lab, 16% the Tutoring Center, 22% the Writing Center and 25% visited Career Counseling. When further prompted, of the students who did not use these resources, 56% reported that they had no time, and 21% listed "other" as their reason.

In conclusion, students do not stay at TCC for a multitude of reasons, including finances, social and familial responsibilities, general and mental health, and problems with professors, grades and academic advising. All of these resources to help students overcome obstacles will be explained within the text of the final designed project, along with contact information. The document will incorporate proven strategies to help students succeed, and retain them throughout the community college program of their choice.

First-year retention strategies

In many cases at TCC, first-year retention is a problem, even though the institution requires students to take a non-credit bearing course aimed at helping individuals become students and assimilate into the academic environment. While TCC uses a class, many schools, dating back to Harvard University in the 1600s, choose to use mentors to help younger students (Mayo, 2013). Utilization of these programs has gained momentum over the past 25 years.

Furthermore, students who are comfortable with the academic and social transition into college are more likely to continue and graduate than students who are not prepared for the roles and responsibilities of college (Mayo, 2013, p. 764).

Mayo lists three keys to student retention within the first year to keep the novice student on track from the intent to transfer or graduate with an associate's degree or career certificate to the actual behavior of doing so. First, a class, like the one at TCC, is suggested to keep personal

contact between students. The use of the Student Center and Joint Use Library are places students can visit to interact with others. Mayo (2013) states that (according to their interpretation of TPB) a student's and their peer's behavioral attitude is the "single most potent source of influence…" (p. 766).

The second point of retention, according to Mayo, is professor involvement. They, too, help form a student's behavioral attitudes and help keep them on the correct path. Mayo contends that a professor's willingness to help guide students through the first year is a high predictor of retention after the first semester and beyond. While the document created through this project cannot influence a professor's willingness to help guide students, it can provide other resources for students to find guidance, and encourage them to speak with professors.

Finally, Mayo lists as her third point of retention to get students involved within the institution. While Mayo admits integrating students within a community college setting is more difficult (for example, the lack of Greek life and dormitories), it can be done. Student centers, planned activities, campus socials, etc. can help students connect with others and, as a community, stay on track through the first year and beyond (Mayo, 2013). Using these TPB-inspired strategies, one could help retain students at TCC. These strategies can then be applied within the document to provide a one-stop document filled with information and incorporating the strategies.

General retention strategies

Student retention remains a problem throughout the ideal two-year community college experience. It spans beyond the first semester and first year. TCC students remain difficult to retain after completing their first year of study.

A global perspective of student retention could help within TCC. Sreekala and Firsad (2016) studied student retention within the context of TPB in India. They conducted their field work under several assumptions: gender does not affect behavior, and behavioral attitudes, subjective norms and perceived behavioral controls also do not predict intention or behavior. What they found contradicted their original hypothesis:

> The results of the present study give a clear indication of the manifestation of secondary effects in higher education decisions. Attitude toward Behavior and Perceived Behavioral Control have significantly predicted the intention of higher secondary students for continuing to higher education. Subjective Norms are found not predicting the decisions, (Sreekala & Firsad, 2016, p. 32).

These findings support the idea that TPB can predict student retention and can therefore be applied to the situation at TCC. Behavioral attitudes and perceived behavioral controls highly predicted student behavior. If one can predict the obstacles to student retention, it could be possible to intervene before the student decides to not perform the behavior. The document developed through this study will include the most prevalent obstacles and resources to help the students overcome such obstacles.

Bonet and Walters conducted a qualitative study to "investigate and analyze learning community outcomes, and how these work," (2016, p. 228). The study hypothesized that professional learning communities (PLCs) help with student success, which is turn helps retain students. A PLC is a group of professionals, in the same profession, learning together. For the purpose of this study, students and teachers were part of the PLCs. The study followed 267 students at Kingsborough Community College in New York. Bonet and Walters found that learning communities grow strong student engagement, which grows student success. The PLCs

allowed students to engage with their teachers, peers, and intellectual content of the course. The engagement led to fewer absences and therefore a higher grade.

According to Fike and Fike (2008), student retention encompasses several predictors. They conducted a quantitative retrospective study of 9,200 first-time college students who enrolled in college within a four-year period at an urban Texan community college. "Findings highlight the impact of developmental education programs and internet-based courses on student persistence. Additional predictors include financial aid, parents' education, the number of semester hours enrolled in and dropped during the first fall semester, and participation in the Student Support Services program," (Fike & Fike, 2008, p. 68). They found that the strongest predictor of retention was taking developmental courses, and taking online courses without a strict timeline.

Most community college students do not finish their program of study or transfer to a 4-year university. The purpose of Lloyd and Eckhardt's study was to develop methods for improving rates of student success, and therefore retention, at community colleges. They wanted to answer the research question: what aspects are needed for a student to succeed at a community college? The study followed students at a two-year college enrolled in science courses. There were a total of two classes, with 20 students in each class. The case study followed these students during a 12-week course and a 6-week course. Participants in the 6-week course reported having more time to spend on one class. They reported that the 6-week course was more intense, forcing them to give more attention to their schoolwork. Students taking the 6 week course ended with a better grade and retention than with a 12-week course. Students who spend more time on a course perform better. These students could spend more time on one subject.

Lloyd and Eckhardt, 2010, found that tutoring helps students succeed. The number of times a student visited the tutoring center correlated to a better grade in the course leading the duo to the conclusion that student-faculty interaction improves student performance and retention.

The time in which a student registers also points to their success and retention rates. Guarantz conducted a qualitative study which attempted to explicitly map out the relationship between assigned registration times and course availability, in order to provide a more nuanced understanding of how impaction affects students in a representative community college," (2015, p. 526). The research question was: does late registration correlate with student behaviors and academic outcome and retention? Guarantz followed students at one large community college in California in the fall semester of 2011-2012. The case study followed the enrolling students through the semester and into the next enrollment period.

My findings imply that students facing closed courses or long wait-lists may be those with low commitment to pursuing their college education, have a weaker understanding of how to navigate the registration or community college system, or who are simply prone to procrastinate; each of these possibilities are discussed in turn, (Guarantz, 2015, p. 526).

Guarantz therefore determined that late registration leads to lower retention.

The administration also influences whether a student drops a class, enrolls, or re-enrolls. Many times the student's first interaction is with a member of the administration. In Roman's 2007 qualitative literature review, he attempted to gather information about the community college student, and find out how other colleges are using administration to retain students. He wanted to find out the role of the administration in student retention and how the administration

can help with retention. Roman found that "retention and the student enrollments they represent can be translated into amounts of revenue," (2007, p. 20). He found that community colleges are traditionally open-enrollment, and that student engagement helps with retention. Furthermore, the administration (such as counselors) can help with student engagement, which, according to Roman, helps with student retention.

Retention and technology

Community college students must adapt to online tools used within the classroom (Cheon, Lee, Crooks & Song, 2012). Cheon, Lee, Crooks & Song used TPB to determine if technology within the classroom helped turn intent into behavior, or if it deterred students from performing the intended behavior (2012). Their results showed that technology both helped and hindered community college students, depending on their perceived behavioral control beliefs within TPB. For some students, technology, such as an online-only class or using Blackboard within a traditional class, proved a hindrance for several reasons, including socioeconomic status (computer affordability), educational aptitude, etc. The students' perceived or actual behavioral control helped to determine student intent and behavior (Cheon, Lee, Crooks & Song, 2012). There are resources within the TCC campus to help students with these obstacles, and the final production from this study will include those resources and encourage students to use them as tools for success and retention.

A study at the University of Ghana found TPB indispensable when predicting student intention with regards to technology in the classroom (Tagoe & Abakah, 2014). They refer to the use of technology within the classroom as m-learning. "Findings from the study showed that most of the students had mobile phones, and used them for conversation and texting," (Tagoe & Abakah, 2014, p. 91). This is in contrast to using phones for school purposes while in the

classroom. The study also found that older students were less likely to use a smart phone. Furthermore:

> Strong loadings of factors such as intentions and perceived behavioral control confirming that the TPB explained the students' m-learning readiness very well. Thus, attitude, subjective norm and behavioral control influenced students' intention to adopt m-learning. The results provide valuable information on ways to implement m-learning programs incorporating the voice and needs of students (Tagoe & Abakah, 2014, p. 91).

Tagoe and Abakah found each aspect TPB to determine student retention intention and behavior with relation to technology within the classroom. TCC offers help with Blackboard, computers and other forms of technology-based learning, which will be included within the final document created from this study.

TCC is the largest community college in Virginia, but holds the lowest retention rates. Using TPB, TCC and other studies have found an abundance of factors that affect student retention. TCC resources included in the document will be: social interaction opportunities, academic advising, the Women's Center, Joint-Use Library, Financial Aid, possible ways to interact with professors, help balancing work with school, and tutoring services. If students had a one-page document designed for readability and emphasis on the most prevalent obstacles, it could help with student success and retention.

Chapter Three: Methodology

This study used several different research methods. I scoured journal articles and peer-reviewed publications for the theoretical aspect of the study. Journal articles comprised the crux of the TPB and TPC design theories within the literature review. With regards to obstacles students face, the specificity of TCC required the use of trade publications, VCCS documents, presentations and studies, personal communication with TCC staff, and results from meetings.

The TPB and TPC design theories worked well together. For example, using these theories together helped determine that the veteran section needed to be separated from the rest of the text; since this population's perceived behavioral controls are mostly handled within the veteran center, the design of the document could reflect that spatial relationship. Using TPC design theories helped visually represent what the TPB model predicted.

The completion of this project required physically creating the envisioned document, and the creation of a focus group. The focus group completed a survey at their final meeting for demographic purposes (See Appendix A). There were 16 students in the focus group, accounting for mortality by surveying the students on their last meeting. The students volunteered to participate – they were all in a first-year English class. The group consisted of 11 students age 18-20 (70%), 4 students age 20-25 (25%) and one student age 30 or older (1%). Fifteen of the students were first-year students (95%), with one sophomore (1%). Six of the students were associated with the military (37%), ten were not (63%). Two students used military benefits (13%) for aid with TCC. Ten students received non-military financial aid (63%), six did not (37). At times the focus group served as a usability group. A focus group, usually consisting of 10-15 people, has the goal of learning the beliefs of its members (Focus). The purpose is to learn

attitudes and opinions. A usability group is often smaller and is built with the goal of learning if a product is usable – is it easy to use, does it perform its purpose, and so on (Hartson). This study blurred the lines, because in the beginning it was purely a focus group. They were used for their opinions about what to include in the document and where to include it. However, they also gave feedback about the lamination, and if they would use the document, making them part of a usability group. While it was not intended, this study resulted in a hybrid focus-usability group of students in the creation of this document.

Students gave ideas and feedback on each edition of the final product. The use of a focus group was chosen to attain information from a student perspective. Using a focus group helped the document form organically, with student input and suggestions. Students were free to write ideas on the board, mark on mock-up documents, and give input.

The focus group was used to evaluate each version of the document to better fit the needs of freshmen students at TCC. The group was randomly chosen from a Freshman English class. The focus group helped mold the final product toward the first-year TCC student.

Using stratified sampling, fifty students from two randomly chosen freshman student development classes were then given a laminated copy of the final guide and a survey. Each professor received the same instructions. They were contained in a manila envelope, along with the surveys and 25 laminated TCC Survival Guide: Virginia Beach (the title of the final document). Appendix B describes the instructions, and the questions used for the survey with the reasoning in bold italics. The version participants received did not have the reasoning. A survey was chosen because it was the best way to reach the students within the courses and have them look at the laminated version at the same time.

The methods used in this study were composed of secondary research, TCC-specific publications, first-hand development of the final document, a focus group and a survey of TCC freshmen. These methods were chosen to create the most user-friendly document as possible and gain quantitative data to later be analyzed.

Chapter Four: Results

TPB played a large part within the results. The methods, in particular the focus group, played an integral part in determining the information included in the document and at which level of importance. The focus group used the results from previous TCC studies about obstacles and determined for themselves if these were indeed obstacles to their goal of graduation, whether that obstacle could be reduced if not eliminated by someone at TCC, and under which category the problem would fall.

For instance, the students determined that the process of enrolling is the first obstacle students face while at TCC. The group decided to place this information at the top of the document. Using TPB, the focus group ranked the obstacles.

Technical and Professional Communication design theories came into play when deciding if, how, and why to highlight certain areas of the document. For example, the students wanted to be able to find information about financial aid quickly. Therefore, a dollar sign icon was added to the document to visually draw the reader's eye toward that information. Information about veterans was blocked off and a military insignia was added to further separate this information that that for the civilian population.

The next page shows the final product as Figure 3.

THE TCC SURVIVAL GUIDE

Virginia Beach

During Enrollment

1. Visit the Career Counseling Center to determine your course of study.
2. Career Counseling Center: **www.tcc.edu/student-services**
3. Find an **academic advisor**. You can walk in, or make an appointment. This person will guide you through
4. your course selection and enrollment process. If you find this person unhelpful, simply request a different advisor.

Building B (Bayside), Room B207 Phone: 757-822-7211

Taking online courses or need more enrollment and academic support?

Visit **www.tcc.edu/student-services/academic-success/academic-advising**

Financial Aid

www.tcc.edu/paying-for-tcc/financial-aid This site has all of the information you need about financial aid including applying, deadlines, and help for veterans. Financial aid can be difficult – don't give up. Keep visiting the office and making sure your financial aid has come through before you are dropped from your classes.

Academic Help

There are several tutoring services, covering all subjects.

These services are all located in the Lynnhaven Building (E)

This building houses the Writing Center, Math Lab, free tutoring services. Always bring your student ID to access services. **www.tcc.edu/student-services/academic-success/tutoring**

Women's Center

Women can visit the Women's Center for mental health issues, as well as any other female issues. The Women's Center is located in the Princess Anne Building (A) Room 115. Phone 822-7296

www.tcc.edu/student-services/personal-support/womens-center

The Student Center

The student center houses the CMVE lounge, meeting rooms, several places to purchase food and drinks, a Barnes and Noble, and recreational and exercise equipment. It's in the large building hovering above the water in the center of campus. **www.tcc.edu/campus-life/virginia-beach**

The Library

The Joint-Use library is located across the street from the Virginia Beach (G) building. There are study rooms, help with research and all other standard library amenities. There is also a café. The link to the library is on the TCC homepage.

All thing Veteran

The Center for Military Veterans Education houses all things veteran-related.

The center can help with the GI Bill (including dependents of veterans using benefits), mental health mentoring, academic support, enrollment help, and can aid you in your transition to the educational world.

The CMVE is located in the Kempsville (D) Building. 822-7645

There is also a Vet Lounge in the Student Center.

tcc.edu/veterans

Mental Health

TCC offers personal counseling for students. To make an appointment, fill out the online form at:

https://www.tcc.edu/student-services/personal-support/counseling-services

The focus group met five times from September – October 2017. Each student received a TCC VB Survival Guide each session and provided feedback for improvements. Each step of design and revising is included after the results of the peer review sessions are discussed. The students participated of their own free will, with no incentive.

The first meeting (Sept. 5, 2017) was to explain my idea and decide the basics of the document. I explained to the participants that I wanted to create a document which encompassed as many TCC handouts as possible. I told them that if this document existed, it would be laminated, so they could throw it in their backpack and reference it as needed. I told them I was creating this document for my thesis project at ECU. I gave the group background information, such as a brief lesson on TPB and TPC design theories, the CSI findings, and information regarding the retention rates at TCC. The students seemed genuinely surprised at the low retention rates at TCC Virginia Beach. They did agree with the CSI findings, and that the results of the CSI represented most perceived behavioral controls that they could think of.

We decided on a title, The TCC VB Survival guide. We happened upon that title after a student said her first semester "wasn't school. It was survival." From that comment, the group decided on the title. It was also decided that the document should have a font representative of boot camp. Stencil was chosen for what one student called "a military vibe."

Results from the CSI were posted on the board (in random order) and students decided which elements were most important to them. We spoke about each resource, what it was for, and how students could use it. Next, the students decided to combine some of the CSI categories into those of their own creation, such as All Things Vet. Some categories were combined, while others were eliminated altogether. How to speak with your professor, for example, was taken out

of the document because it couldn't fit within the confines of one single sheet of paper. Including

that information made the document too long. The group decided to leave the information off.

They wanted the first half of the document to include help for enrolling, followed by a

line, and then information more helpful during the semester. The line was meant as a TPC design

element to separate the two sections visually. The group decided that including the Women's

Center, The Library, Veteran Affairs and Mental Health were important for during the semester,

and therefore should appear above the line while Advising, Financial Aid and Academic Help

was more suited for during enrollment, and below the line. There was some debate on how to

include mental health for men. The Women's Center handles mental health, but not for men. A

Men's Center doesn't exist, nor does a medical center (most community colleges do not have

medical centers). After some research, we found where men could go for help for mental health

and included it in the document.

We also discussed what should cover the back of the document. The result was that 100%

of students wanted a map of the campus on the back of the final product. One student pulled a

crumpled piece of paper out of her backpack and said "this is the only map they gave me. I

definitely like the idea of laminating it. I should have laminated this when I got it." The meeting

lasted approximately 15 minutes.

The second meeting (Sept. 7, 2017), lasting approximately 15 minutes, was to revise the

first document. Once printed out, the students found the line to be too distracting, and decided

that the resources should be listed solely by order of importance, instead of breaking it into

during and after enrollment. One student said "now that I'm looking at it, the whole line thing

makes me dizzy. It needs to be more simple." The meeting was to decide which resources to

highlight first, second, etc. Students determined that the following headings should appear in the

following order: During Enrollment, Financial Aid, Academic Help, Women's Center, The Student Center, All Things Veteran, The Library, and Mental Health. During Enrollment appears first because it is the first obstacle that could impede a student on their academic journey. Financial Aid was determined the second-most common problem. "Dealing with financial aid is bad enough. Let's make it easy to find on the handout," commented one student. Academic Help, which includes tutoring and the Writing Center, was determined the third most common. This was one of the areas where students combined several CSI categories into one. All Things Veteran was considered next in line of importance, but the students wanted to further emphasis the veteran resources by containing the information in a box. Students determined that the Women's Center should be included somewhere in the middle of the document, therefore it ranked in the middle of their scale. One student said "I know they do a whole bunch of stuff for women, but I don't even know where it's at." This comment further confirmed the need for a map on the back of the page. The Student Center also fell into the middle of the scale, and therefore in the middle of the document. Students said including the Student Center was important because, as one student said, "it's important to be around other people. Plus there's lots of cool stuff to do in there." The student center includes dining, recreation, meeting rooms, internet access and lounging areas. Mental Health was listed at the end of the scale and at the bottom of the document, but not because of its order of importance. Students said they would be more likely to use the information at the top and middle of the page more often than they would the bottom. One student said "mental health should be at the top, but this is about obstacles that are likely to get in our way. Hopefully students will actually look at the whole page and remember it's on there."

We also discussed how to use the extra white space below the map on the back of the document. The group wanted to put information about how to speak with a professor, but then realized that the print quality with the first image was not adequate. The group decided the first map was too busy with color, and not detailed enough once it was printed out. Another, larger map was substituted, deleting the white space below the map.

During the third meeting (Sept. 12, 2017) the focus group used the results from TCC's numerous studies to tease out the specific information to be included in the final product. I previously made a list of the top reported problems with students, retention and reenrollment. I wrote each problem on the board in no particular order: scheduling, financial aid, mental health, life getting in the way, tutoring, career counseling, and veteran resources. My intent was to incorporate the Quick Scan Method, in order of importance.

The focus group decided that having some resources listed first or last didn't make a difference. They instead wanted to divide the page with one half resources to use during enrollment (such as how to enroll) and the other half resources to use while a student. The students said every resource is important, but at different times during their educational experience at TCC. They wanted icons, borders, and a variety of fonts to draw attention to different resources. Also during the third meeting students decided using the smallest margins possible would give the document more space for information. The back page was also finalized (see Appendix A). The third meeting lasted approximately 20 minutes.

Meeting four (Sept 19, 2017) provided the most feedback. The focus group gave several ideas about the layout, use of whitespace and typeface. The original title, The TCC VB Survival Guide was changed to The TCC Survival Guide, with Virginia Beach in a stamp font, rotated a

bit, at the end of the title. One student suggested I hire someone to design a "VB" digital image. One student said "it's just too many abbreviations for me."

The focus group thought the typeface should be changed within the title, but couldn't think of a proper substitute. The idea of hiring a designer was spoken about, but because of time and budget constraints could not come to fruition. The students decided that the idea of breaking the document into During Enrollment and During the Semester didn't work, because it created too much white space and divided the document in an awkward way. Students wanted a section for Mental Health Issues, but instead of listing the women's center, to list resources for men and women. The Women's Center will be in a separate place, with its resources listed. The students wanted TCC logos used on the guide because, as one student said, "I can look at the TCC logo and automatically know it's important." The fourth meeting lasted approximately 15 minutes.

The fifth and final meeting took place October 24 2017. Several of the students had begun to face obstacles to retention, and asked to see the document to find information. Five students total used the document to find their needed assistance. This became a mini-document testing phase of the study. Three of the students were retained until the end of the semester after they found information within the document. One student dropped because of illness, and the other because of job interference. The remaining students in the focus group had few changes to suggest. They said to play with the whitespace a bit and to change the font of "Virginia Beach." This meeting lasted about 15 minutes.

The development of the final product took three months to produce. Please see Appendix C for its meeting-by-meeting development.

After the final document was presented and approved by the focus group, surveys were distributed among randomly chosen freshmen SDV classes. Freshmen classes were chosen

because ideally, this handout would come as part of the freshman orientation information. The raw data and the survey are in the Appendix.

With respect to demographics, the survey resulted in 71 participants ranging in age from 16 – 50. Eleven percent of participants were aged 17 and younger, 67% were 18 – 20, 13% aged 2-25, less than one percent were 25-30, and 1% were aged 31 and older. Ninety-two percent of participants were freshmen and 8% were sophomores. The lean toward freshmen was intentional, since this document is designed to be distributed as part of a freshman orientation packet. Forty-one percent of participants reported being affiliated with the military, 59% were not associated with the military. Fifteen percent of the population surveyed received some sort of military benefit for TCC, while 85% did not. Sixty-one percent reported using financial aid for TCC and 39% did not.

When asked about the colors of the document, less than 1% really liked the colors, 56% said they somewhat liked the colors, 25% reported no opinion, less than one percent said they somewhat disliked the colors, and 10% said they extremely disliked the colors. Fifty-nine percent of participants reported that they found the building in which they were taking the survey very easy, 34% said it was somewhat easy, less than 1% had no opinion, found it somewhat or very difficult to find the building. In terms of finding the financial aid section on the document, 68% reported finding the financial aid section very easy, 25% aid it was somewhat easy, and less than 1% reported finding financial aid somewhat or very difficult to find on the document. When asked about the general navigation of the document, 33% reported very easy navigation, 55% reported somewhat easy, 1% reported it was somewhat difficult, and no respondents reported the document as very difficult to navigate. The most important question, the usefulness of the document, assumes the student knows their intent at TCC and would have received a copy during

their freshman orientation. Of the participants surveyed, 35% found it very useful, 48% said somewhat useful, 11% reported no opinion, and less than 1% found the document somewhat or very un-useful.

Chapter Five: **Conclusion**

From this study one can conclude the document created to help freshmen could, indeed, assist in an intervention to overcome their obstacles to remaining in school. While TCC is continuing to study the reasons behind the decline in student retention, they are not as of yet creating a document of any kind. This study parallels many of the TCC studies, but uses the information differently (through a tangible document). The front of the document showcases the most important obstacle resources, as determined by the TCC study. The map on the back could potentially save students the aggravation of trying to find an on-campus map.

Based on the scattered results from the survey with regards to color, I believe a final revision should include only black and white, with perhaps the exception of the TCC logo. The use of color would need to be included when determining the budget for printing and laminating the document.

Through an analysis of the survey results about finding the building in which the student was taking the survey and the ease of finding the financial aid building, I do not believe the map or financial aid icon should change. Statistics point to the document being somewhat and very easy to navigate, leading me to believe it should not be rearranged. With regards to the usefulness of the document, statistics say the document is somewhat to very useful to students. However, it is important to note that further study is needed to know if students would indeed use the document.

From this survey, though limited in scope, one can determine that this document could in fact be useful in an intervention to keep a student retained at TCC. While only five students used the document during the semester, it in part can be concluded that the document contains needed information for retention. These five students sought out the document. Had they possessed the

document from the beginning of the semester, it is possible that more students would use the document.

Limitations of the study include not knowing if the students will actually use the document. To truly understand if the document is useful, surveying students who had access to the document constantly would be needed. A full year-long study would need to be conducted to determine the percentage of students who used the document within the context of retention at TCC. The most obvious limitation to this study is that the focus group was not made up of students who did not register or who dropped out, but of students in school. While some of the students faced problems where they could have used the document, the vast majority had to project what obstacles they may face while in school. There are also limitations to the Theory of Planned Behavior, of which this study used to explain why students were not re-enrolling. No theory can fully predict if a student will let obstacles in their way end their college career.

The next step in this study would be to execute the document among a random sample of freshmen. Freshmen could be taken from the TCC Student Development course (SDV), a requirement for all entering students. The course is structured to teach students the basics needed for academic success. Using this class to distribute the handout would ensure the students didn't have previous knowledge of the resources available to them at TCC. After distributing the handouts, one could wait a semester, and then survey the students about their interaction, or lack thereof, with the document. Using a survey also allows students to note why they dropped out of school or are not enrolling in the next semester.

This document, the TCC Survival Guide, Virginia Beach, is meant to assist students overcome obstacles not just in their first semester, but throughout their tenure at TCC. The areas highlighted on the sheet, including the map, were chosen by a focus group of freshmen students

who may face challenges and use the document. The concept of this document is to supply the student with a combination of several handouts, condensing the amount of paperwork they receive at the beginning of their first semester. The hope is that students can stuff the laminated Survival Guide in their backpack, and reference as needed. The goal of the document is to help students overcome obstacles and stay in school.

REFERENCES

Ajzen, I., & Fishbein, M. (1969). The prediction of behavioral intentions in a choice situation. *Journal of Experimental Social Psychology, 5*, 400-416.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*, 179-211.

Ajzen, I. & Sheikh, S. (2013). Action versus inaction: anticipated affect in the theory of planned behavior. *Journal of Applied Social Psychology, 41*(3), 155-162.

Andersen, Marcee. Personal communication, August 19 2016.

Andersen, M. email, August 7, 2017.

Andersen, M. email, October 30, 2017.

Arnold, J. et.al (2006) How well can the theory of planned behavior account for occupational intentions? *Journal of Vocational Behavior, 69(3),* 374-390.

Bonet, G., & Walters, B. (2016). High Impact Practices: Student Engagement and Retention. *College Student Journal, 50(2),* 224-235.

Brumberger, E. (2003a). The Rhetoric of Typography: The Persona of Typeface and Text. *Technical Communications, 50(2),* 206-223.

Brumberger, E. (2003b). The rhetoric of typography: The awareness and impact of typeface appropriateness. *Technical Communication, 50(2),* 224-231.

Burns, J. (2016). Gov. McAuliffe announces $1.2 billion projected budget shortfall. WTVR News 6. Retrieved from http://wtvr.com/2016/08/25/teachers-state-workers-feel-pinch-amid-1-5-billion-deficit/

Cheng, P. & Chu, M. (2014). Behavioral Factors Affecting Students' Intentions to Enroll in Business Ethics Courses: A Comparison of the Theory of Planned Behavior and Social

Cognitive Theory Using Self-Identity as a Moderator. *Journal of Business Ethics. 124(1)* 35-46.

College Completion, Tidewater Community College. (2016). The Chronicle of Higher Education. *College Completion: Who graduates from college, who doesn't, and why it matters."* Online version used in private TCC meeting.

CSI Form B for TCC. (2016). College Student Inventory, Tidewater Community College, (na).

Fichten, C. S., et.al (2014). How well does the theory of planned behavior predict graduation among college and university students with disabilities? *Social Psychology of Education: An International Journal, 17(4*), 657-685. DOI: 10.1007/11218-014-9272-8

Fike, D. & Fike, R. (2008). Predictors of First-Year Student Retention in the Community College. *Community College Review. 36(2),* 68-88.

Focus group. (2018). In *Encyclopædia Britannica*. Retrieved from https://academic-eb-com.jproxy.lib.ecu.edu/levels/collegiate/article/focus-group/606152

Friess, E. (2010). Designing from Data" Rhetorical Appeals in Support of Design Decisions. *Journal of Business and Technical Communication,* 24(4), 18-23.

Gibbons, C. (1999). Zealand, Reflections on Developing a Typeface. *Visible Language, 33*(3), 354.

Godrick-Rab, S., & Broton, K. (2015). Hungry, Homeless and in College. The New York Times (Opinion Page).

Golombisky, K & Marr, R. (2013). Layout: Where to put visuals & type for impact. *White Space is not Your Enemy: A Beginner's Guide* 160-206.

Gurants, O. (2015). Who Loses Out? Registration Order, Course Availability, and Student Behaviors in Community College. *Journal of Higher Education. 86(4),* 524-563.

Hartson, R., Williges, C. & Andre, T. (2003). Criteria for Evaluating Usability Evaluation

    Methods, International Journal of Human–Computer Interaction, *15(1)*, 145-

    181, DOI: 10.1207/S15327590IJHC1501_13

Karp, M. & Bork, R. (2012). They Never Told me What to Expect, so I Didn't Know What to

    Do": Defining and Clarifying the Role of a Community College Student. CCRC Working

    Paper No. 47. Teachers College: Columbia University.

Lloyd, P. & Eckhardt, R. (2010). Strategies for Improving Retention of Community College

    Students in the Sciences. *Science Educator. 19(1).* 33-41.

Madden, T, Ellen, P. & Ajzen, I. (1992). A comparison of the theory of planned behavior and the

    theory of reasoned action. *Personality and Social Psychology Bulletin, 18(1),* 3-9.

Mayo, T. (2013). First-Year course requirements and retention for community colleges,

    Community College Journal of Research and Practice, 37(10), 764-768, DOI:

    10.1080/10668921003723292

Noel T. Alton, Christina Rosenquist, Getting the message across: A Peircean analysis of

    environmental websites, *Professional Communication Conference (IPCC) 2011 IEEE*

    International, pp. 1-10, 2011, ISSN 2158-1002.

Olsen, B., Lund, N., Ellingsen, G., Hartvigsen, G., (2012). "Document theory for the design of

    socio-technical systems: A document model as ontology of human expression," *Journal*

    of Documentation, 68(1), 100-126, https://doi-

    org.jproxy.lib.ecu.edu/10.1108/00220411211200347. Accessed 11.21.2017.

Quesenbery, W., & Szuc, D. (2011). Global ux : design and research in a connected world.

    Retrieved from https://ebookcentral.proquest.com Accessed 11.21.2017.

Redish, J. (2010). Technical Communication and Usability: Intertwined Strands and Mutual

    Influences, *IEEE Transactions on Professional Communication, 53(3),*

    DOI10.1109/TPC.2010.2052861. Accessed 11.21.2017.

Rise, J.; Sheeran, P.; & Hukkelberg, S. (2010) The Role of Self-Identity in the Theory of Planned

    Behavior: A Meta-Analysis. *Journal of Applied Social Psychology. 40(5).* 1085-1105.

Roman, M. (2007). Community College Admission and Student Retention. *Journal of College*

    Admission, (194), 18-23.

Schneider, S. (2005). Usable Pedagogies: Usability, Rhetoric, and Sociocultural Pedagogy in the

    Technical Writing Classroom, *Technical Communication Quarterly, 14(4),* 447-467.

Scott M. & Richard H. (2014). Predictors of first-year retention in a community college,

    Community College Journal of Research and Practice, 38(7), 651-660, DOI:

    10.1080/10668926.2012.711143

Sreekala, E., & Firsad, S. (2016). Determinants of educational continuation decisions of higher

    secondary school students in India: An application of theory of planned behavior. *I-*

    Manager's Journal on Educational Psychology, 9(3), 32-43.

Sreekala, E., & Firsad, S. (2016). Determinants of educational continuation decisions of higher

    secondary school students in India: An application of theory of planned behavior. *I-*

    Manager's Journal on Educational Psychology, 9(3), 32-43.

Student Success. (2015). *The Chronicle of Higher Education,* Blackboard edition. 3-27.

Sutter, N. & Paulson, S. (2016). Predicting college students' intention to graduate: a test of the

    theory of planned behavior. *College Student Journal, 50(3).* 409-421.

Tagoe, M., & Abakah, E. (2014). Determining distance education students' readiness for mobile

    learning at University of Ghana using the theory of planned behavior. *International*

Journal of Education and Development using Information and Communication

Technology, 10(1), 91-106.

Theory of Planned Behavior: Definition, Examples & Usefulness. Study.com.

Retrieved from http://study.com/academy/lesson/theory-of-planned-

behavior definitionexamples-usefulness.html Accessed December 10 2017.

(na) (2011). Time is the Enemy: The surprising truth a about why today's college students aren't

graduating…AND WHAT NEEDS TO CHANGE. Complete College America.

Tinto, V. Syracuse University.

Virginia Beach Retention Survey Results (2016). Tidewater Community College (na.) (np).

Zender, M., & Mejía, G. M. (2013). Improving icon design: Through focus on the role of

individual symbols in the construction of meaning. *Visible Language, 47(1),* 66-89.

Retrieved from

http://search.proquest.com.jproxy.lib.ecu.edu/docview/1444999846?accountid=10639

Zhou, Q., & Farkas, D. (2010). QuikScan: Formatting Documents for Better Comprehension and

Navigation. *Technical Communication, 57*(2), 197-209. Retrieved from

http://www.jstor.org/stable/43094233

APPENDIX A: FOCUS GROUP DEMOGRAPHICS SURVEY

What was your age on your last birthday? _____

This question is important because Tidewater Community College has a wide range of ages within its student population. I want to make sure I have a range of ages within the survey groups.

2.   What is your current academic standing?

Freshman   Sophomore   Other

For the purposes of this study, I'm more interested in what freshmen think about the document, so I would like to make sure the vast majority of students in the class are freshmen.

3.   Are you associated with the military? (active duty, veteran, spouse, dependent)

Yes   No

This question is important because of the large military population at TCC. I want to make sure I include students associated with the military in my survey because it's a population that needs representation.

4.   Do you use the military benefits for TCC expenses?

Yes   No

This is an important question because many students that I see have problems with financial aid. I need to know if these people can find the resources they need to help with their military benefits.

5.   Do you receive financial aid? (part or full)

Yes   No

One of the problems facing students as a hurdle to continuing their education is financial aid. I need to know how many students within my survey population could use the part about financial aid assistance.

Instructions for professor: Tell students "This is a document meant to help you find resources at TCC. Please answer all questions.

Survey:

1.   What was your age on your last birthday? _____

This question is important because Tidewater Community College has a wide range of ages within its student population. I want to make sure I have a range of ages within the survey groups.

    2.   What is your current academic standing?

Freshman   Sophomore   Other

For the purposes of this study, I'm more interested in what freshmen think about the document, so I would like to make sure the vast majority of students in the class are freshmen.

4.   Are you associated with the military? (active duty, veteran, spouse, dependent)

Yes   No

This question is important because of the large military population at TCC. I want to make sure I include students associated with the military in my survey because it's a population that needs representation.

5.   Do you use the military benefits for TCC expenses?

Yes   No

This is an important question because many students that I see have problems with financial aid. I need to know if these people can find the resources they need to help with their military benefits.

6.   Do you receive financial aid? (part or full)

Yes   No

One of the problems facing students as a hurdle to continuing their education is financial aid.

I need to know how many students within my survey population could use the part about

financial aid assistance.

6.   Do you like the colors of this document?

   Really like

   Somewhat Like

   No Opinion

   Somewhat dislike

   Extremely dislike

Visual appeal is important in any document design. It's especially important for this

document, because my vision is that students will keep this document for future reference. The

colors could influence their decision to keep or toss the final product.

7.   Can you find the building you are in using the map on the back?

   Very easy

   Somewhat easily

   No Opinion

   Somewhat difficult

   Very difficult

One of the problems facing students is the large campus at Virginia Beach. Some of the

buildings are not within walking distance, they are named and given a letter, which students

may find confusing. I want to make sure students find this part of the document useful.

8.   Can you find the section addressing financial aid using the icons?

Very easily

Somewhat easily

No Opinion

Somewhat difficult

Very Difficult

Through my research I have found that the use of icons are important in the navigation of technical documents. I would like to know if the students surveyed find the icons useful.

9.   What are your feeling about the navigation of the document?

Very Easy

Easy

No Opinion

Difficult

Very Difficult

I used this question to gain possible insight into the navigational value of the document. This is important in a technical document, because it's prime purpose is to be useful in finding information.

10.   How useful do you find this document?

Very Useful

Useful

No Opinion

Un-useful

Very Un-useful

This question is important because it gives insight into the actual usefulness of the document.

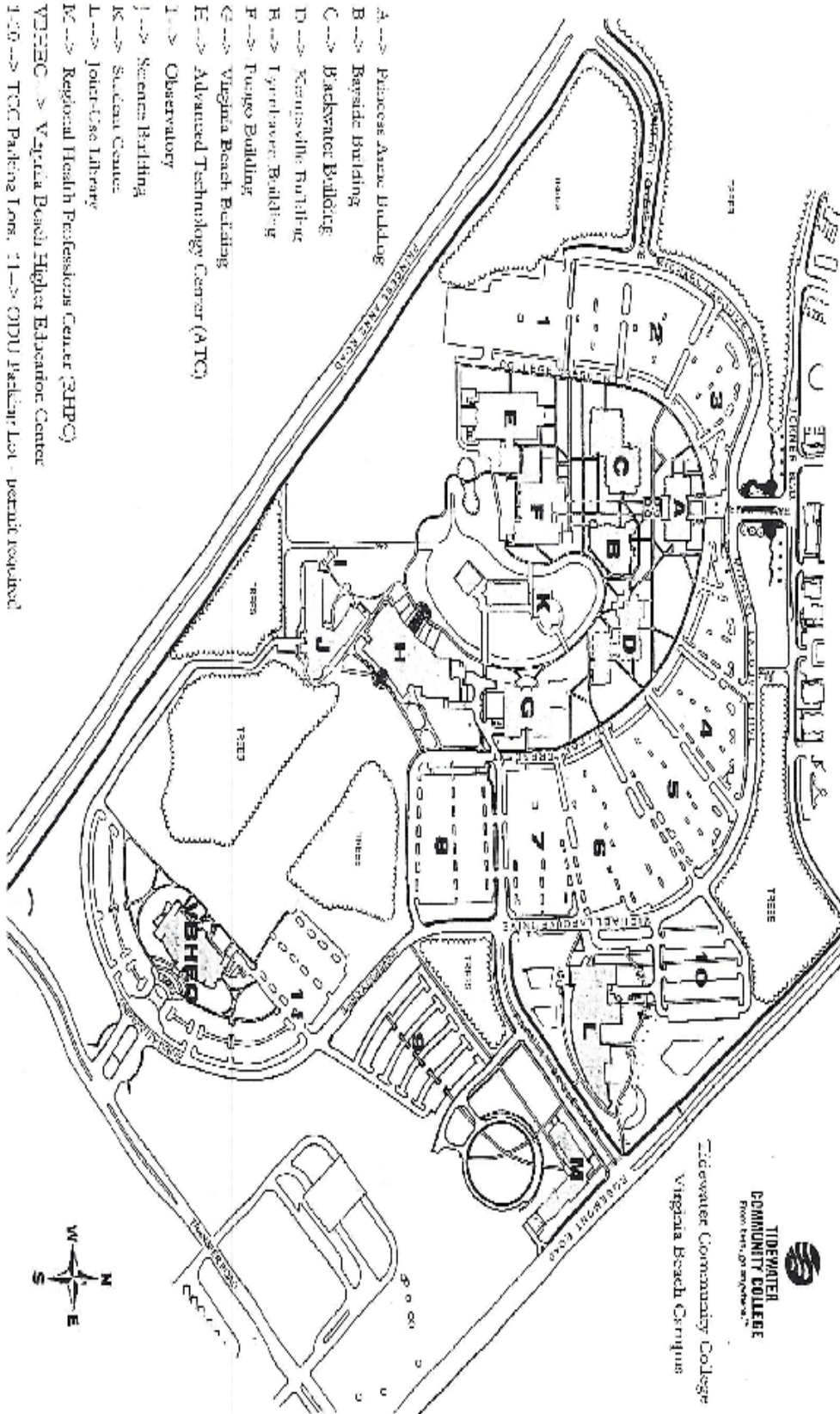*The question is asking about the usefulness of the document, and not the future usefulness.*

APPENDIX C: MEETING RESULTS

TCC Virginia Beach Campus Map
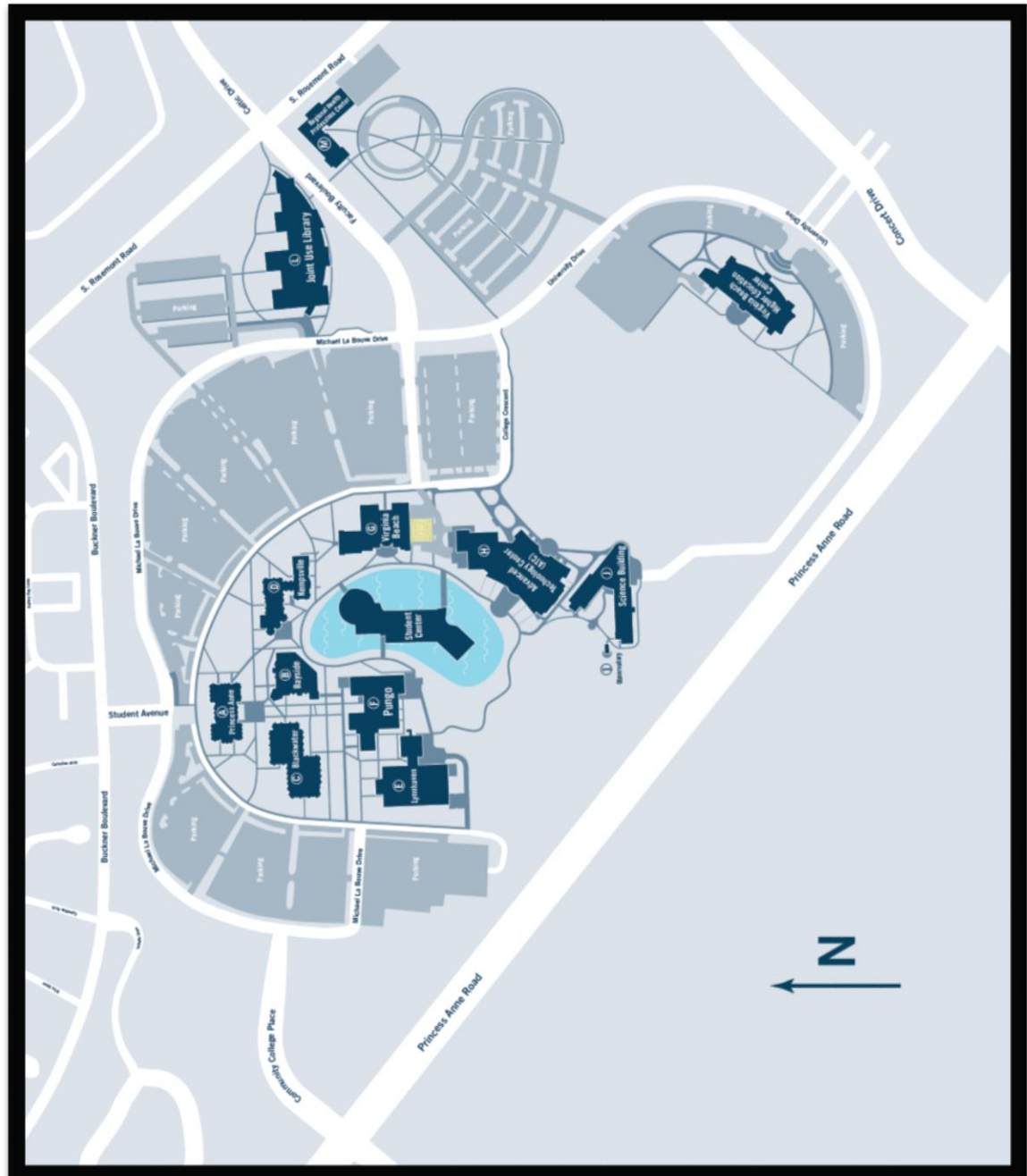
The TCC VB Survival Guide

During Enrollment

1. Visit the Career Counseling Center to determine your course of study.
   Career Counseling Center: **www.tcc.edu/student-services**
2. Find an academic advisor. You can walk in, or make an appointment. This person will guide you through your course selection and enrollment process. If you find this person unhelpful, simply request a different advisor.
   Building B (Bayside), Room B207
   Phone: 757-822-7211
3. Taking online courses or need more enrollment and academic support?
   Visit **www.tcc.edu/student-services/academic-success/academic-advising**

Financial Aid

www.tcc.edu/paying-for-tcc/financial-aid This site has all of the information you need about financial aid including applying, deadlines, and help for veterans.

_____

During the semester

Academic Help

There are several tutoring services, covering all subjects. These services are all located in the Lynnhaven Building (E)
This building houses the Writing Center, Math Lab, free tutoring services.
Always bring your student ID to access services.

www.tcc.edu/student-services/academic-success/tutoring

Mental Health Issues

If you feel suicidal, dial 911 immediately
Women can visit the Women's Center for mental health issues, as well as any other female issues. The Women's Center is located in the Princess Anne Building (A) Room 115. Phone 822-7296
www.tcc.edu/student-services/personal-support/womens-center

All Things Veteran

The CMVE (Center for Military Veterans Education) houses all things veteran-related. They can help you with the GI Bill (including dependents of veterans using the GI Bill), mental health, mentoring, academic support, enrollment help, and can aid you in your transition to the educational world.
There is also a Vet Lounge in the Student Center.
www.tcc.edu/military

The Student Center

The student center houses the CMVE lounge, meeting rooms, several places to purchase food and drinks, a Barnes and Noble, and recreational and exercise equipment. It's in the large building hovering above the water in the center of campus. **www.tcc.edu/campus-life/virginia-beach**

TIDEWATER COMMUNITY COLLEGE
From here, go anywhere.™

THE TCC SURVIVAL GUIDE

Virginia Beach

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4. ## Financial Aid

   www.tcc.edu/paying-for-tcc/financial-aid This site has all of the information you need about financial aid including applying, deadlines, and help for veterans. Financial aid can be difficult – don't give up. Keep visiting the office and making sure your financial aid has come through before you are dropped from your classes.

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Women's Center

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The Library

The Joint-Use library is located across the street from the Virginia Beach (G) building. There are study rooms, help with research and all other standard library amenities. There is also a café. The link to the library is on the TCC homepage.

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Phone: 822-7645 **www.tcc.edu/military**

Meeting 5 results on next page.

THE TCC SURVIVAL GUIDE

Virginia Beach

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The Center for Military Veterans Education houses all things veteran-related.

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The CMVE is located in the Kempsville (D) Building. 822-7645

There is also a Vet Lounge in the Student Center.

tcc.edu/veterans

Mental Health

TCC offers personal counseling for students. To make an appointment, fill out the online form at:
HTTPS://WWW.TCC.EDU/STUDENT-SERVICES/PERSONAL-SUPPORT/COUNSELING-SERVICES

APPENDIX D: DEMOGRAPHICS

17 & younger	18-20	20-25	25-30	31 and older
8	48	9	1	5

Academic Standing

Freshman	65
Sophomore	5
Other	0

Military Association

Yes	29
No	42

Military Benefits

Yes	11
No	61

Financial Aid

Yes	43
No	37

Colors

Really Like	Somewhat Like	No Opinion	Somewhat Dislike	Extremely Dislike
4	40	18	1	7

Finding the Building

Very Easy	Somewhat Easy	No Opinion	Somewhat Difficult	Very Difficult
42	24	2	5	3

Finding Financial Aid

Very Easy	Somewhat Easy	No Opinion	Somewhat Difficult	Very Difficult
48	18	2	1	0

Navigation of Document

Very Easy	Somewhat Easy	No Opinion	Somewhat Difficult	Very Difficult
24	39	6	2	0

Usefulness

Very Useful	Somewhat Useful	No Opinion	Somewhat un-useful	Very un-useful
25	34	8	2	1