Removing Barriers to Degree Completion: The Dennis-Montagnino TEAMS Model for Student-Centered Transfer Credit

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This paper presents the development of a comprehensive framework from which to engage with the process of college transfer credit. The Dennis-Montagnino Transparency, Empowerment, Attainability, Mentorship, and Sustainability (TEAMS) Model provides guidelines for the development of clear and accessible policy that serves to empower students and institutions alike. Further, the model outlines effective practices for improving the attainability of credit through streamlined and engaging practices, such as mentorship. Sustainability is discussed in the context of relevant innovations in the higher education landscape. Future directions, including the design and implementation of a pilot are discussed.

Keywords: transfer credit, college credit, equity, college students, transfer policies, degree completion

INTRODUCTION

This article introduces the Dennis-Montagnino Transparency, Empowerment, Attainability, Mentorship, and Sustainability (TEAMS) Model for student-centered transfer credit as a guide for higher education institutions hoping to facilitate a streamlined, inclusive, and supportive transfer credit process. Transfer credit validates prior learning, increases the affordability of college, and can raise graduation rates by allowing students to move between institutions while preserving earned artifacts from their academic records. While transfer between colleges is common, lack of credit transferability has long concerned students, college professionals, and policymakers. Further, limited research has examined key factors related to the magnitude of credit loss following transfer. Findings of multiple studies elucidate the need for further research to delve deeper into the determinants of credit loss for transfer students, to improve credit transferability and support a smoother educational transition for students within the American higher education landscape (Giani, 2019; Hodara et al., 2015; National Student Clearinghouse; 2015; Roksa & Keith, 2008).

A report from the National Student Clearinghouse examined the six-year outcomes for students who began their postsecondary education in the fall of 2009, a cohort that experienced increased enrollments during the Great Recession (National Student Clearinghouse, 2022). Despite the official end of the recession in June 2009, its lingering effects on employment, wages, and family finances continued to impact students and institutions. The study found that the overall national six-year completion rate for the fall 2009 cohort was 52.9%, which represents a decline of 2.1 percentage points from the fall 2008 cohort. This

decline was twice the rate of decline observed in the previous year's report when comparing the 2007 cohort to the 2008 cohort. The report also highlights that various student populations, including older students and exclusively full-time students, experienced declines in their attainment rates. The delayed entry group, which includes students who delayed entering college for a few years, had the largest decline in completion rates, falling by 4.7 percentage points. Adult learners experienced a decrease of 2.9 percentage points, while traditional-age students had a smaller decline of 0.75 percentage points. Additionally, completion rates declined in public and private four-year institutions, with the for-profit sector showing a significant drop in completion rates. The report also includes a supplemental feature examining eight-year outcomes for the fall 2007 cohort, which showed a combined completion rate of 61.8% after two additional years (National Student Clearinghouse, 2022).

The transfer credit landscape may be evaluated regarding vertical, horizontal, and reverse transfer. Vertical transfer refers to transferring credits where the receiving institution offers a higher credential than the sending institution. In most cases, the sending institution is a 2-year community college, and the receiving institution is a four-year college. While 80% of community college students aspire to earn a bachelor's degree at a four-year institution, only 14% achieve this within six years. This gap is more pronounced for Black and Hispanic students, and those from lower-income backgrounds face additional barriers (Tackling Transfer Policy Advisory Board, 2021). Vertical transfer credit can potentially increase the rates of 4-year degrees earned by graduates of two-year institutions. Hodara, Martinez-Wenzl, Mazzeo, and colleagues (2015) aimed to address the issue of low bachelor's degree completion rates among community college transfer students, with a specific focus on credit mobility, which refers to the transfer of credits from a community college to a four-year institution. Their research examined various policy approaches to credit mobility and assessed how both college staff and students experience the transfer process. Data was gathered from policy documents, legislative statutes, interviews with higher education system officials, and on-site visits to colleges in Tennessee, Texas, and Washington. The study categorized credit mobility policies into three distinct approaches: system-wide transfer initiatives (referred to as 2 + 2), credit equivalency, and institution-driven policies (Hodara et al., 2015). The findings suggest that these policies may not always function as intended due to challenges such as transfer students failing to choose a major and destination institution early enough in their community college journey, leading to credit loss. Additionally, institutions may struggle to provide personalized support to students interested in transferring early in their academic careers.

Senie (2016) investigated the implementation of a transfer articulation policy between public community colleges and state universities in a northeastern state, following the consolidation of the state governing board for higher education. Employing a qualitative multisite case study approach, the research examined the perspectives of key stakeholders, including faculty, administrators, and staff, to understand how they viewed the transfer policy. The study drew from Tierney's cultural analysis of governance, Handel's theory of a transfer-affirming culture, and Jain, Herrera, Bernal, and Solorzano's research on services for pre-transfer and post-transfer success among nontraditional students. The findings of this study highlighted several challenges in implementing the transfer policy. These included issues with community college curricula and student transfer advising, as well as the presence of a cultural gap between community colleges and state universities. The study also emphasized the influence of politics in higher education governance reform and the resulting clash between political and academic cultures. Overall, the research offers insights to inform policymakers in their efforts to promote statewide transfer and articulation initiatives. Additionally, it provides valuable guidance for faculty, administrators, and staff seeking to enhance the success of students transferring from community colleges to four-year institutions.

The annual progress report on Some College, No Credential (SCNC) students reveals several key findings for the academic year 2021/22 (Annual Progress Report, 2022). Firstly, the SCNC population in the United States grew to 40.4 million, marking a significant increase of 3.6% or 1.4 million students in a year. This expansion is attributed to a lack of re-enrollment among previously identified SCNC students (thirty-nine million) and the addition of 2.3 million new SCNC students, known as "recent stop-outs." Among the SCNC population, 7.3% are considered "potential completers," having made at least two years' worth of academic progress before their last enrollment. Secondly, the report highlights that most SCNC

students are under thirty-five at their last enrollment, with a sizable portion of recent stop-outs being under 20 (24.6%) and potential completers primarily in their early 20s (55.6%). Community colleges are identified as the most common institution for last enrollment, re-enrollment, and first credential attainment for SCNC students. Lastly, the report indicates a decline in re-enrollment rates, credential completion within a year after re-enrollment, and the perseverance of SCNC students into their second year of re-enrollment compared to the previous year. However, two subgroups, potential completers and recent stop-outs, demonstrated more promising outcomes with higher re-enrollment and completion rates. Additionally, the report notes disparities among Black SCNC students in bachelor's degree completion within one year of re-enrollment but highlights that the gap disappears for potential completers. These findings underscore the importance of addressing the SCNC population's unique needs and improving pathways for their educational attainment (Annual Progress Report, 2022).

Horizontal transfer credit refers to transfer between institutions offering degrees at the same level. The Tackling Transfer Policy Advisory Board (2021) highlighted some key challenges transfer students face, especially during the COVID-19 pandemic, emphasizing that students, on average, are losing an estimated 43% of their credits when switching institutions. To address these challenges, the report offers a typology framework to assess state transfer policies in four critical policy clusters: Pathways and Credit Applicability, Student Supports, Institutional Collaboration and Implementation, and Accountability (Tackling Transfer Policy Advisory Board, 2021). The analysis reveals that despite transfer policies in all states, there remain significant barriers to student mobility, and outcomes for transfer students are consistently poor across income and race/ethnicity categories. The report also highlights the need for greater alignment between transfer policies and the multi-directional pathways that many students take. Key findings indicate that many states are implementing just over half of the tracked policy elements, with no state implementing all sixteen elements (Tackling Transfer Policy Advisory Board, 2021). Florida, Hawaii, and Nevada have the highest number of implemented policies. Foundational policies in Pathways and Credit Applicability are most commonly adopted, while Intermediate policies in the Student Supports cluster, particularly financial aid for transfer students, are lacking. The report underscores the critical need for more comprehensive and equitable transfer policies to support student success and suggests recommendations for future policy development and reform to address these gaps.

A study by Roksa and Keith (2008) challenges the conventional notion that articulation policies aimed at enhancing credit transfer rates between institutions do not necessarily lead to increased transfer success. The authors argue that the primary purpose of articulation policies is to prevent credit loss when students transfer within state higher education systems rather than to improve transfer rates. Instead of focusing solely on transfer rates, the study evaluates these policies by considering alternative outcomes, including the attainment of a bachelor's degree, time to degree completion, and the number of credits required to earn a bachelor's degree. This research highlights the need to reframe the evaluation of articulation policies. It suggests that future studies should specifically assess the transfer or loss of credits applicable to general education requirements (Roksa & Keith, 2008). This shift in focus aims to provide a more comprehensive understanding of the impact of articulation policies on students' educational attainment and the efficiency of their progress toward earning a bachelor's degree.

Reverse transfer credit refers to retroactively awarding associate degrees to students seeking bachelor's degrees based on credits earned at previously attended institutions. Students who transfer from community colleges to four-year institutions often leave without an earned associate degree, resulting in a sizable portion of students accumulating credits without obtaining a credential. Only 41 percent of transfer students do so after earning a certificate or degree, leaving the majority without a recognized credential. This issue disproportionately affects Black, Latinx, Indigenous, and low-income students, as they often begin their postsecondary education at community colleges. Among the thirty-six million students with some college experience but no degree, approximately 10 percent leave after accumulating substantial credits equivalent to at least two years of full-time enrollment. Many of these students may have met the requirements for an associate degree, but it was never conferred. Reverse transfer initiatives aim to recover these unawarded associate degrees, benefiting students and addressing the equity gap in higher education. Early case studies suggest that reverse transfer helps recover many associate degrees, especially for marginalized student

populations. For example, Latinx students, those from low-income backgrounds, and adult learners who receive a reclaimed associate degree through reverse transfer are more likely to continue and complete a bachelor's degree compared to similar peers who do not receive an associate degree before transferring. Beyond individual students, reverse transfer benefits institutions and states by increasing graduation rates, enhancing data systems, and fostering stronger institutional relationships. However, despite these benefits, only twenty-two states had active statewide reverse transfer legislation as of February 2020, with institutions in other states implementing reverse transfer on a case-by-case basis.

Reverse transfer credit can be a helpful way to provide current students with more earning power, thereby supporting their efforts to successfully complete their degrees. Robinson (2015) focused on reverse transfer credit policies, which aimed to increase motivation and persistence among students pursuing a bachelor's degree and potentially enhance their labor market prospects by providing them with additional credentials. Despite the widespread adoption of reverse transfer policies in at least fifteen states, the study highlights the lack of causal evidence regarding their impact on student outcomes. The research, conducted using administrative data from Tennessee and a difference-in-differences design, reveals that reverse transfer degrees generally have limited effects on students' short- and intermediate-term academic and labor market outcomes. While there are some small positive gains in GPA and short-term employment for recipients, there is no significant impact on attaining bachelor's degrees or recipients' earnings. These findings contrast with previous descriptive works that reported substantial student benefits. Robinson suggests that methodological improvements and more robust data contribute to the differing results and should be considered by policymakers when designing and implementing reverse transfer programs.

In a similar study, Crook, Chellman, and Holod (2012) investigates the impact of earning an associate degree on the baccalaureate outcomes of transfer students within the City University of New York (CUNY) system (Crook et al., 2012). The research challenges the idea that articulation policies alone consistently increase student transfer rates. The study's findings reveal that students who earn an Associate of Arts (AA) or Associate of Science (AS) degree, while controlling for the number of credits earned, experience a significant 6.9% increase in the probability of attaining a baccalaureate degree. This effect is comparable in magnitude to the impact of completing an additional semester of full-time coursework. Moreover, the study indicates variations in the value of different associate degrees, with differences observed between the AA/AS degrees and the Associate of Applied Science (AAS) degree (Crook et al., 2012). These variations extend to both the degree and the credits completed before transfer. The study suggests that these associations may be influenced by specific transfer policies within the CUNY system. However, further research is required to establish causality and determine the precise mechanisms driving these outcomes.

A Credit When It's Due (CWID) initiative (Taylor & Bragg, 2015) examined the implementation of reverse transfer policies in twelve states. This initiative aims to encourage community colleges and universities to expand programs that award associate degrees to transfer students while they pursue a bachelor's degree. The report focuses on optimizing reverse transfer policies and processes at the state, system, and institutional levels. Optimization in this context means making policy and program changes that enable as many deserving students as possible to be conferred reverse transfer Associate's degrees without compromising quality or negatively affecting student learning outcomes. The analysis is structured around five dimensions of reverse transfer: student identification, consent, transcript exchange, degree audit, and degree conferral and advising. In terms of student identification, the report emphasizes that early eligibility criteria applied during the reverse transfer process may exclude students who would eventually qualify if allowed to remain in the eligibility pool and regularly assessed for eligibility. Consent policies, which require students to actively agree to transcript exchange and degree conferment, vary in their efficacy, with "opt-out" policies likely resulting in higher consent rates among eligible students. Transcript exchange methods also vary, and investing in technologies for efficient transcript exchange can increase the capacity to implement reverse transfer and reach more students. The ability to automate degree audits is partially dependent on technology infrastructure and course equivalency systems, and streamlining this process can enhance the capacity for automated degree audits. Finally, engaging near-completers through advising on course and credit requirements for an Associate's degree while pursuing a bachelor's degree

will likely lead to higher numbers of reverse transfer associate's degrees. There is a consensus within the bulk of the literature that multiple barriers to transfer credit exist.

BARRIERS TO COLLEGE CREDIT TRANSFER

College credit transfer is a pivotal mechanism for facilitating students' educational mobility and attainment, yet numerous barriers hinder its effectiveness. This section examines existing research on transfer credit policies, models, and outcomes to identify key barriers to credit transfer. Drawing from various studies, this section addresses five main categories of barriers: Credit Loss and Financial Impact, Inconsistent Transfer Policies, Academic Disparities, Administrative and Technological Challenges, and Lack of Information and Transparency.

Credit Loss and Financial Impact

The extent of credit loss experienced by transfer students significantly impacts their academic progression and financial well-being (Giani, 2019). Transfer students often face challenges in recognizing their credits at their new institution, leading to retaking courses and incurring additional expenses. Giani's study highlights the variability in credit loss predictors across states, emphasizing the need for state-level research to address this issue effectively.

Credit loss delays students' time to degree and incurs substantial financial costs. For many students, transferring credits means paying for courses they have already completed, resulting in wasted time and money (Schneider & Columbus, 2017). Moreover, credit loss may disrupt students' financial aid eligibility, further exacerbating the financial burden. The budgetary impact of credit loss extends beyond tuition fees to include expenses associated with transportation, housing, and textbooks (Schneider & Columbus, 2017).

Inconsistent Transfer Policies

Inconsistencies in transfer policies across institutions contribute to the complexity of the transfer process (Giani, 2019). Hodara et al. (2015) categorize credit mobility policies into three approaches: system-wide transfer initiatives, credit equivalency, and institution-driven policies. However, these policies may not always function as intended, leading to challenges such as credit loss and inadequate support for transfer students (Senie, 2016).

Inconsistent transfer policies create confusion and uncertainty for students navigating the transfer process. Policies regarding credit transferability, course equivalencies, and transfer requirements vary widely between institutions, making it difficult for students to anticipate the transferability of their credits. Moreover, the lack of standardization in transfer policies may disproportionately affect underrepresented and marginalized students, who may lack access to adequate guidance and support (Andrews, Booker, Cicchillo, & Tommasone, 2023).

Academic Disparities

Disparities in accreditation status between institutions pose additional barriers to credit transfer (Giani, 2019). Students transferring credits between regionally and nationally accredited institutions may encounter limitations, hindering their progress toward degree completion. Moreover, implementing articulation policies aimed at enhancing credit transfer rates may not necessarily lead to increased transfer success (Crook, Chellman, & Holod, 2012; Roksa & Keith, 2008). Academic disparities in credit transferability exacerbate existing inequities in higher education. Students attending institutions with lower accreditation status may face challenges in transferring credits to institutions with higher accreditation status, limiting their access to advanced educational opportunities. Furthermore, the lack of alignment between articulation policies and students' academic goals may impede their ability to transfer credits efficiently and pursue their desired degree pathways.

Administrative and Technological Challenges

Administrative inefficiencies and technological limitations further complicate the credit transfer process (Griffin, 2023). Insufficient technological infrastructure and administrative support hinder the timely evaluation and recognition of transferred credits, prolonging students' time to degree completion. Taylor & Bragg (2015) emphasize the importance of robust data systems and institutional partnerships in optimizing reverse transfer policies.

Administrative and technological challenges in credit transfer processes create barriers to seamless institutional transitions. Outdated systems and manual processes for evaluating and transferring credits may result in delays and errors, undermining students' confidence in the transferability of their credits. Moreover, inadequate communication and coordination between institutions exacerbate administrative challenges, leading to inconsistencies and inefficiencies in credit transfer processes.

Lack of Information and Transparency

A lack of transparent information about transfer policies exacerbates the challenges faced by transfer students (Griffin, 2023). Many students struggle to obtain accurate guidance on credit transferability, leading to confusion and frustration. The "Tackling Transfer Policy Advisory Board" report underscores the need for greater transparency and alignment between transfer policies and student pathways (Tackling Transfer Policy Advisory Board, 2021).

The lack of information and transparency surrounding credit transfer policies impedes students' decision-making about their educational pathways. Students may encounter difficulty accessing information about transfer requirements, credit equivalencies, and articulation agreements, hindering their ability to effectively plan and navigate the transfer process. Moreover, the absence of transparent transfer policies may contribute to students' mistrust of institutions and discourage them from pursuing transfer opportunities.

To address these barriers, policymakers and institutions must prioritize the development of standardized transfer policies, enhance technological infrastructure, and improve information dissemination and support services. By addressing these barriers above and promoting stakeholder collaboration, institutions can create more accessible pathways for students seeking to transfer credits and improve overall educational outcomes. By addressing these barriers systematically, policymakers and institutions can create a more supportive and equitable environment for transfer students, ultimately enhancing their educational attainment and success.

Additional research regarding new models that could simplify the implementation and execution of policies and practices to increase credit portability is an essential next step. Institutions have not fully adopted seamless transfer pathways due to many complex factors. A model that can build upon the existing research and offer a simplified yet comprehensive solution to ensure educational equity as students move between institutions is vital for increasing educational attainment. The Dennis-Montagnino TEAMS Model for student-centered transfer credit aims to achieve just this.

TEAMS MODEL FOR COLLEGE TRANSFER CREDIT

The Transparency, Empowerment, Attainability, Mentorship, and Sustainability (TEAMS) Model (see Figure 1) was developed through literature review and brainstorming to identify processes that support student success related to the transfer of college credits from institution to institution. Applying these five principles places institutions in an advantageous position to effectively support students navigating the transfer credit process. When centering the student experience and aiming to maximize credits and minimize roadblocks, we give students the best chance at successful graduation with minimal debt and position our institutions as worthy of the significant investment students must make in their attempts to earn a degree in the current educational landscape.

FIGURE 1
DENNIS-MONTAGNINO TEAMS MODEL FOR STUDENT-CENTERED TRANSFER CREDIT

Transparency	Empowerment
Sustainability	
Attainability	Mentorship
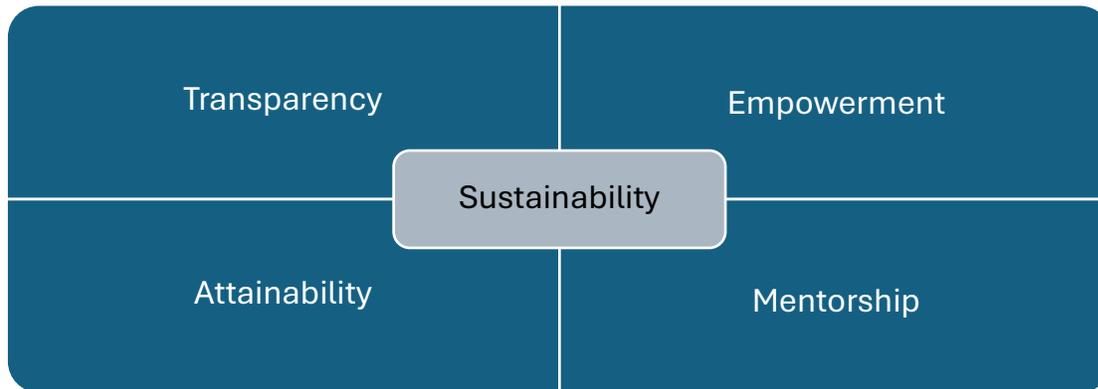
Transparency

First, with respect to transparency it is important to develop a clear policy to govern the process of college transfer credit (Rodwell, 2014). Clarity is open to interpretation and based, at least to some degree, on perception. One strategy for assessing the degree to which one's policies are clear is to present them to members of the population of stakeholders. In the case of transfer credit policies, there are multiple stakeholders. One stakeholder is the Registrar. Policies governing transfer credit must be clearly articulated to individuals responsible for processing and documenting credit. If misunderstandings exist, credit may end up being allocated unequally. One example illustrating the ramifications of misunderstandings in this area relates to the transfer of college credit earned from institutions where the grading scales differ. If this issue is not addressed through policy, students in the same position may receive credit based on the Registrar staff assigned rather than the merits of the credits they earned. Policies must clearly define equivalency formulas that will be applied to the evaluation of college credit graded on a scale that differs from that of the receiving institution. A second stakeholder group is faculty or administrators approving requests.

Regarding faculty or academic leaders, there are two pertinent issues to consider. The first issue pertains to guidelines regarding faculty autonomy. Faculty and all those evaluating transfer credit must receive the same exact guidance regarding credit applicability. Differences in credit approval must be determined by merit of the transcript courses and not personal preference of the faculty member reviewing the course descriptions. Of course, due to individual differences, faculty are not able to evaluate like computers might, but standardization can still be nurtured through clear and detailed policies. The second issue is less conducive to standardization.

Faculty members and academic leaders tasked with evaluating potential transfer credit are influenced, in part, by their perceptions regarding expectations. For example, some institutions inherently value awarding as much transfer credit as possible, so long as it is relevant and does not detract from the attainment of student learning outcomes. On the other hand, other institutions permeate cultures that deter transfer credit acceptance. This may be due, in part, to fears of losing financial resources, which actually are not borne out by data. In fact, research demonstrates that empowering students through the acceptance of transfer credit contributes to better student outcomes, such as degree completion, and better institutional outcomes, such as higher retention and enrollment rates. The final stakeholder group, students, is the most important to this analysis.

Students must be exposed to clear policies regarding transfer credit from the moment they first encounter a prospective degree program, which generally happens during an individual website review. If students are unaware of transfer credit policies, they will not apply for transfer credit. Further, if students must hunt for these policies, then they are not likely to do so. Alternately, they may feel discouraged and either not apply to the institution or apply without requesting the consideration of relevant transfer credit, which may lead to a longer time to degree completion, higher rates of debt, and, in many cases, lower rates

of student retention for the institution in question. In addition to supporting fairness and nurturing student success, transfer credit policy transparency reduces inequities.

Credit mobility varies based on the academic field of study and the institution where the credit was earned (Hodara, Martinez-Wenzl, Stevens, & Mazzeo, 2017). For instance, research demonstrates that demographics correlate with credit loss in a way that minimizes the number of credits transferred for those individuals who represent disadvantaged groups (Giani, 2019). Many now acknowledge that we must rethink our transfer credit policies to align with the needs of present-day students (Tackling Transfer Policy Advisory Board, 2021). For instance, in recent years, there has been a surge towards a more widespread acceptance of college credit fueled in part by policies such as Credit Where it's Due (Soler, Bishop, Meza, McCambly, & Bragg, 2017), which has been implemented in multiple states and emphasizes an increased involvement of faculty in transfer credit decisions and, in some cases, the consideration of credit for life experience.

Empowerment

Empowerment involves facilitating the process of an individual, group, or organization realizing their power. Empowerment breeds confidence and calm, which generally leads to positive outcomes. For example, if a person is harmed and they feel empowered, they are likely to stand up for themselves and their rights. If a person is harmed and does not feel empowered, they are less likely to self-advocate. Higher education institutions must empower students to advocate for credit where it is due (Ward & Tierney, 2017). One way that this may be accomplished is by providing students with policies that align with positive experiences.

For instance, when navigating the various college systems, admissions, financial aid, and registration, smooth process leads to pleasant student experience. With regards to transfer credit, LaViolet & Wyner (2020) outline five core principles for prioritizing the student experience, including understanding experience and outcomes, defining a vision and goals for equity, creating clear paths to the bachelor's degree, providing clear and consistent information, and advising, and committing to routines of collaboration. Rates of successful transfer demonstrate that there remains a need to establish a culture of credit mobility (Andrews, Booker, Cicchillo, Burrell, & Tommasone, 2023). Research demonstrates that adjustments in transfer credit policy can improve outcomes and experience. For instance, Robinson (2015) reports that reverse transfer policies can improve graduation rates. Further, LaSota & Zumeta (2020) elucidate how policy increases the proportion of associate-level students moving into baccalaureate degree programs. Student empowerment is not the only outcome of the equitable transfer credit policy. Quite to the contrary, institutions may also be empowered.

Transfer credit policies that center students tend to lead to the award of more credits, which consequently lead institutions to retain more students. Further, institutions that are working to center their policies on student transfer credit needs tend to attract more students. For example, institutional partnerships are often entered into for student transfer (Yeh & Wetzstein, 2022). These partnerships often serve as feeders for the receiving institution awarding the higher-level credential. They also help the sending institution attract more students due to the possibility of easily transferring into an institution that awards higher-level credentials.

Attainability

While student empowerment is integral, it means little if the credit students seek is unattainable. To make it possible for students to gain transfer credit, student centered practices must be employed. Starkey (2019) describes three dimensions of student-centered education which can be used to inform practice, humanist, agentic and cognitive. Further, transfer credit practices should be clear and intuitive. For example, students should be aware of the content and the parameters utilized for the evaluation (Ott & Cooper, 2014). The first step in ensuring that students may attain the transfer credit they are due is to present information clearly.

Task force analyses conclude that students need more information about the process of transfer credit (U.S. Government Accountability Office, 2017). Providing students with information in a way that it can

be absorbed can be challenging. One strategy is to include relevant examples that can help increase the ease with which students may obtain transfer credit, thereby decreasing the time to degree completion and reducing student debt post-graduation. Placing information on websites and increasing the ease of navigation can be a helpful way to support student transfer credit attainment (Schudde, Bradley, & Absher, 2020). Additionally, mobile outreach can be used to reach potential transfer students to increase transparency regarding credit possibilities (Sutton, 2018). Assessing understanding can also be accomplished via the use of simulations or quizzes during orientation periods, to ensure that students are informed about their options and the steps needed to obtain transfer credit.

Due to the significant and positive impacts which student-centered transfer credit practices may make, some institutions aim to go a step further and they work to establish articulation agreements with other institutions, thereby making it even more clear to all involved which credits will transfer. Articulation agreements support the preservation of resources and increase the ease with which students can obtain the credits they have earned (Smith, 2010). Further, articulation agreements support enrollments for sending and receiving institutions. For example, articulation agreements reduce time to completion (Worsham, DeSantis, Whatley, Johnson, & Jaeger, 2021), and increase the rates of four-year degree completion among individuals studying at the associate degree level (Senie, 2016).

Mentorship

In addition to prioritizing transparency in policy, utilizing policy as a strategy for empowering students, and ensuring that credit is attainable through practices, mentorship is necessary to move students forward toward positive outcomes. Mentoring involves the provision of guidance, and it has many positive impacts concerning student engagement and retention (Law, Hales, & Busenbark, 2020).

Admission counselors often provide mentorship, who support students through the process of obtaining transfer credit by sharing and explaining policies, providing paperwork, and serving as a conduit between prospective students and those who decide what credits will be accepted. There are several potential challenges associated with this strategy for mentoring students. First, it places admissions counselors in the position of needing to support students who have already been accepted and are moving through the process while simultaneously working to recruit for the cohort that will follow. This level of workload may not be sustainable, depending on volume and institutional resources. A second challenge relates to acting as a go-between. Suppose the counselor, for instance, has worked with the faculty member making the decision for a period and has experience collaborating with transfer credit. In that case, they will be able to accurately respond to student questions. If, however, there is a new counselor or faculty member or the existing counselor lacks familiarity with the process, they may spend much of their time following up with faculty, then relaying messages to students, which is not the most efficient use of their time. To streamline the process and provide meaningful mentorship to students, admissions counselors must transition students to a novel support network after they are admitted.

Advising can pick up where admissions teams leave off, providing students with the benefit of a smooth transition. For example, suppose the admissions counselor shares the policy and documents with the student and provides them with a timeline for transfer credit requests. In that case, the advisor might follow up during an initial session with the student. Alternately, to maximize resources, transfer credit process might be incorporated into a required orientation so that students can engage with an entire Module of content related to transfer credit. In this scenario, students might even be presented with a quiz to ensure that they understand their options. This can be helpful for students who may have less exposure to the concept of transfer credit who otherwise might never realize that they could have earned credit, thereby reducing their financial investment and time to degree completion. Faculty should also play a role in student mentorship surrounding transfer credit policies.

Faculty often make decisions regarding transfer credit based on their assessment of similarities and differences between the course description and, in some cases, syllabus of two courses. This takes up time and is somewhat subjective in nature. One strategy that reduces faculty workload and increases transparency is creating spreadsheets that outline parameters for accepting credit. These sheets can also contain course names and numbers from specific institutions that the faculty member would automatically accept. Over

time, these lists can grow, such that, at some time or another, an advisor might be able to step in and complete the transfer credit review in place of the faculty member based on their outlined approval spreadsheets. In addition to making the final decision regarding credit to award, faculty can engage in mentorship by guiding students through the process. This can be done without ever meeting the student, by recording instructional videos using a screen share, and providing details regarding the process to students, thereby preserving workload. As with most mentorship initiatives, it is an innovative idea to follow up more than once.

Given the magnitude of tasks required of students early in their first terms, it is easy to understand how things may be missed. Following up regarding transfer credit needs and options at some point during the first course can be beneficial to both the student and the institution. Student ambassadors serving as volunteers can conduct these follow-ups with relative ease, providing the new students with needed mentorship and gaining experience which will help them obtain gainful employment following the completion of their degrees. Student Ambassadors have been shown to improve the academic outcomes for underserved students (Bayer, Baldwin, Grossman, & DuBois, 2015). When employing students in this capacity, training is of the utmost importance (Loane, 2015). With adequate preparation, student mentorship can be significantly impactful, particularly during transition periods such as the start of a new college (Graham, Wayne, Persutte-Manning, Pergantis, & Vaughan, 2022).

Sustainability

Individuals with some college but no credential is a population that has grown significantly in recent years (Pevitz, Ryu, & Shapiro, 2023). We must investigate this finding fully, as other research demonstrates that degree completion, no matter the level of credential, is associated with higher earnings (Schneider & Columbus, 2017). Improving the accessibility of opportunities for students to transfer college credit is sustainable for both students and institutions in many ways, key among which is degree completion.

Students who start but do not finish their degrees have (or will) pay a generous sum of money without benefiting from the increased earning power associated with earning a degree. Many students earn an Associate's degree in route to a Baccalaureate level credential (National Student Clearninghouse, 2015; Monaghan & Attewell, 2015). Through articulation policies, some states have guaranteed students who earn an associates level credential the right to transfer it, in its entirety, to a four-year institution (Education Commission of the States, 2018). This is an important improvement, because according to some research, earning an Associate's degree first increases the odds that an individual will earn a baccalaureate degree (Crook, Chellman, & Holod, 2012; Crosta, & Kopko, 2014). Other work does not demonstrate this association. For instance, Turk (2018) found that variables including grade point average at initial institution, funding, and institutional characteristics such as selectivity and public/private/for profit/nonprofit status were better predictors of completion. Other research demonstrates that completion of an Associate's level credential prior to starting work on a baccalaureate degree predicts performance (Wang, Chuang, & McCready, 2017). In addition to completion, debt is an important consideration which relates heavily to transfer credit awards. One way institutions are beginning to address this challenge is by initiating reverse transfer credit policies.

Reverse transfer credit is an option some institutions offer to students who transfer from an Associate's degree to a Bachelor's degree granting institution prior to earning the Associate's level credential (Kauppila & Taylor, 2017; Taylor, 2016). The reverse credit involves the student earning credits at the Bachelor's degree granting institution and then transferring them back to the original Associate's degree granting institution to earn the Associate's degree. This allows students to earn a credential on the way to their Bachelor's degree and can be a helpful way to increase their earning power and provide them with the empowerment they need to continue their progress. Research demonstrates positive outcomes for individuals who are awarded reverse transfer credit, such as improved levels of degree completion (Taylor & Giani, 2019). Five dimensions, including student identification, consent, transcript exchange, degree audit, and degree conferral and advising were identified as core aspects of the reverse transfer process (Taylor & Bragg, 2015).

Best practices suggested for processing reverse transfer credit include the formation of multi-institution/department taskforce committees, automating degree evaluation, and identifying effective processes for student information sharing between institutions (Friedel & Wilson, 2015).

FUTURE DIRECTIONS

Future directions include piloting the model within a population of undergraduate students to assess experience-related factors and assessing administrator perceptions regarding the relationship between transfer credit and institutional growth.

Student Experience

First, in terms of the assessment of student experience, future directions will focus on collecting and evaluating student perception data. Conducting a pilot that will involve applying the model to transfer credit for a predetermined period of time and administering a survey to students to assess satisfaction and perceptions of process will elucidate some of the core assumptions of the model. One issue that will require careful analysis is clear and transparent policy considerations. An assessment of the perceptions of students who apply for transfer credit and those who do not will provide the most to us data. Surveys must be administered to all applicants and verbal period of time to capture this group. In addition to student experience and perception, administrator perception must also be examined to present an accurate picture of the process and the utility of the TEAMS Model.

Administrator Perceptions of Transfer Credit and Growth

One of the potential reasons that one transfer credit policies appear restrictive is that their authors (i.e., administrators) have a personal stake in reducing the overall number or transfer credits accepted by the college. If this is found to be the case, it may be that some administrators see transfer credit as a harm to the institutions they serve. In fact, institutions that prioritize the awarding of transfer credit in a supportive manner tend to realize their goals more quickly and to experience lasting enrollment growth.

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