The ‘transfer grid’: A qualitative interview tool to more fully understand the transfer student trajectory

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Transfer students navigating the path from an associate’s degree granting institution to a bachelor’s degree granting institution have unique and complex trajectories. In this paper we introduce a qualitative artifact, called the ‘transfer grid’, to allow researchers to better understand and explore these transfer student narratives. This tool makes visible a more complete narrative of the transfer student experience. Through mapping important moments before and during this transition, we provide researchers a method to: (1) support relationship building between the interviewer and participant; (2) discover what the participant sees as important to their transfer trajectory; and (3) generate a rich narrative with which to ground findings in context itself.

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I. INTRODUCTION

Students who transfer between Associate's Degree Granting Institutions (ADGI, called community colleges, two-year colleges, or technical colleges) and Bachelor's Degree Granting Institutions (BDGI, called universities or four-year colleges) navigate trajectories that are often unique and 'circuitous' [1]. To develop academic systems that support these transfer student trajectories, we must document the experiences of transfer students as they make the transition from ADGIs to BDGIs. Understanding the diverse pathways experienced by transfer students allows scholars and support systems to not treat the group as a monolith and to adapt supports to reach the transfer student population.

Historically, higher education in America has been shaped and developed with systemic racism at its core [2]. Policies and barriers that originate from this context have systematically limited educational access and opportunities to students of color. Within this context, transfer pathways offer an important opportunity to resist systemic oppression. Thus, for students of color, the opportunity and ability to transfer is a social justice tool in the pursuit of social mobility [3]. Since BDGIs are often more equipped with institutional resources, it is important to understand how BDGIs can play a role in supporting students navigating this transition.

Previous work on transfer student experiences has used a life grid to study these transitory experiences between ADGIs and BDGIs [1, 4]. The purpose of this paper is to introduce a new qualitative interview tool called the 'transfer grid'to explore and better understand the transfer student experience throughout the *Transfer Transition Support Gap*. This is a period in a transfer student's trajectory where they may not be supported by either institution or they may be in a transitory space between the supports of an ADGI and BDGI. Specifically, the transfer grid can reveal supports and lack of supports across institutions with particular attention to how BDGIs can become a better partner in supporting transfer students through their transition.

II. BACKGROUND

A. What we know about transfer students in STEM

ADGIs offer a more flexible academic path for students seeking to earn a degree or gain knowledge or skills post-secondary school. Yet, many students at ADGIs feel left on their own [5] or searching for a helping hand [6] when transferring to a BDGI. ADGIs enroll almost half of the nation's undergraduate students [7]. Of these students, 40% enroll in a STEM or health sciences degree program [8]. Nearly 80% of first-time ADGI enrollees indicate a desire to earn a baccalaureate degree or higher, but only 29% will do so within six years [9]. Furthermore, ADGI students are also more likely to come from underrepresented groups, low-income households, or first-generation backgrounds than students at BDGIs [10, 11]. ADGIs are therefore a key context for working toward greater equity in STEM. However, only a small proportion of research focuses on the ADGI context [8, 12, 13].

Research focused on transfer students often focuses on the individual experience. For instance, Transfer Student Capital (TSC) is a conceptual framework that explores how students from ADGIs accumulate knowledge to negotiate the transfer process from both formal and informal sources [14]. TSC predicts the likelihood of a student to successfully transfer to a BDGI [14]. As an outcome of TSC, Transfer Self-Efficacy (TSE) is a measure of a student's confidence in their ability to successfully transfer [15, 16]. Additionally, Sense of Belonging has also been studied in the context of transfer students in order to study which factors or supports will develop a transfer student's Sense of Belonging and therefore their success in graduating [17]. Linking across these individual constructs, students with higher TSC experienced an easier transfer experience, and those with lower TSC, resulted less TSE and a decreased Sense of Belonging to the receiving institution [18].

In the process of transferring, many people influence a transfer student's journey. The literature characterizes institutional personnel such as academic advisors, faculty, or administrators as *transfer agents*. Transfer agents have been shown, through interviews with transfer-intending students, to have significant positive influence on their views on transferring [19]. Similar to institutionally based transfer agents, family can be a strong source of support for students in their qualitative reflections of their transfer experiences [20]. We need to learn more about how transfer students are encountering these academic systems and what factors are contributing to their experience.

B. What we would like to know

In our work, we use Transfer Receptive Culture [21] as a theory that allows us to bridge individual and systemic constructs. Transfer Receptive Culture describes an institutional commitment by both the sending (ADGI) and receiving institutions (BDGI) to support transfer students, particularly those from historically marginalized backgrounds. Grounded in Critical Race Theory [2], a Transfer Receptive Culture emphasizes a shared commitment by both the ADGI and BDGI to create successful transfer pathways by valuing the unique experiences transfer students have, providing intentional support specific to transfer students, and supporting the diverse and racialized experiences of transfer students [21].

Plenty of data exists that explores the percentages of students transferring, to and from which institutions, and the demographics of those transferring. We need these statistics in order to understand the outcomes of transfer students, broadly. However, these data represent a student's experience "on average". We know that few students succeed in reaching their goal of obtaining their bachelor's degrees post-transfer [10] and also that transferring is a racialized process [21].

We know that BDGIs need better course transfer policies and transfer student specific support and programming [22].

We need to better understand the stories of transfer students encountering these systems. Additionally, the onus lies on the BDGI to support each student it admits. To better understand how BDGIs can support their transfer students, we need tools to qualitatively explore transfer students' trajectories.

To study the experiences of transfer students, a variety of qualitative interview tools have been used, such as the life story case study method [23], narrative inquiry [24], phenomenological interviews [25], and the life grid methods [1, 4]. These methods leverage qualitative research to explore 'how' and 'why' questions which allow for research to be constructed around each participant's unique experiences [15].

C. Life grid method

In this paper, we introduce the transfer grid as an interview tool. The life grid was first introduced to examine how life events affected people's trajectories [26]. It was then adapted into the STEM education context where Rowland et al. (2019) used it with biology students reflecting on their undergraduate careers and physics students discussing a multi-week lab project [4].

The life grid is a visual artifact to be used during a qualitative interview that explores experiences over time [4, 26]. This method supports collaboration between the participant and interviewer, which is beneficial for the participant to feel ownership over their narrative [27]. This method allows us to accurately represent a participant's story while also collecting rich descriptions. The relationship between the interviewer and participant adds credibility and a validation check to the data collection and analysis as the meaning of the stories are negotiated in the development of the artifact [27]. The use of artifacts themselves can also be used to lead the conversation. In past work, the first author adapted the life grid to retroactively explore the trajectories of transfer students throughout their higher education journeys [1]. This paper will further explore the life grid methodology and narrow this narrative method to focus specifically on the experiences of transfer students navigating the *Transfer Transition Support Gap* through the transfer grid.

III. INTRODUCING THE TRANSFER GRID

The development of the transfer grid is guided by the Transfer Receptive Culture framework [21]. Though creating space or room for the racialized experiences of transfer students is not our central goal, we intentionally chose the Transfer Receptive Culture framework that allows for those experiences to be revealed. Thus, the purpose of this transfer grid is to develop a shared context on which to bridge the individual experience with the systemic constructs.

The context for which the transfer grid was developed is a large, public, BDGI in the Midwest. The project is housed in an institution that is predominately white with approximately 30% of the STEM-degree seeking students transferring from an ADGI. The undergraduate participants are majoring in various STEM and non-STEM disciplines, and all self-identify as transfer students. Dachille is a white, male, doctoral candidate who has experience studying transfer students and had a winding path through three different ADGIs as a transfer student himself. He has focused on building relationships with transfer students and programs to support transfer students at the BDGI. Phun is an Asian American woman, educational psychologist working in physics education research. Although she has not attended an ADGI herself, she has built relationships with ADGI transfer-intending students and BDGI transfer students through exploring motivational constructs. Sawtelle is a physics education research scholar who has been studying the supports for transfer students in STEM for the past 8 years. She is a white woman researcher engaged in equity and justice work who did not earn a degree from an ADGI, but attended and earned credits from ADGIs at different points in her career.

The transfer grid is a tool that both guides the interview discussion and creates an artifact at the same time. This tool starts as a 5×5 table made up of transfer segments as column headers and dimensions as row headers with cells that the interviewer and the interviewee fill out together. In the following subsections, we introduce the transfer segments and dimensions.

A. Transfer segments

The column headers are called 'transfer segments'. The interview starts with four predetermined transfer segments which the participant is asked to modify to fit their trajectory. The initial transfer segments represent a structure for participants to scaffold their transfer experience, and can be described as follows:

- *Transfer Segment #1 - [Community College]:* This transfer segment provides space for experiences during a student's time at the ADGI. Since transfer student trajectories are often non-linear, this column can be duplicated if a student attends multiple ADGIs.

- *Transfer Segment #2 - Gap:* This transfer segment captures a student's experiences during their transition between an ADGI and the BDGI. Research suggests that there is a hand-off from the ADGI to the BDGI where the student may not be supported by either institution [6]. The transfer grid is explicitly designed to document these transitory experiences.

- *Transfer Segment #3 - First semester at [University]:* This transfer segment documents the first semester at a BDGI - when a transfer student first interacts

with the structures at the BDGI. Transfer students often experience a culture shock in the first semester at a BDGI [6]. Thus, we break down the transfer experience by semester to understand the transitory supports and experiences of transfer students upon entering the BDGI.

- *Transfer Segment #4 - After first semester at [University]:* This final column provides the space for students to have more of a grounding at the BDGI than in their first semester. This is also where participants have the opportunity to compare the previous transfer segments to observe similarities and differences in their experiences.

These columns are predetermined to explore the range of the *Transfer Transition Support Gap*. As part of the protocol, participants are prompted to choose if the column headers accurately represent *their* transfer experience, and if not, to modify, add, or delete the column headers to better fit their transfer experience. It is important to explore each transfer segment individually to learn what experiences influenced how a transfer student arrived to where they are now.

B. Dimensions

The dimensions (rows) are pre-named, however unlike the transfer segment (column) headers, participants are not explicitly prompted to change or edit the dimensions. We hypothesize that the main affective experiences of transfer students are influenced by life events and the people and community they are engaged with. We also wanted to explore how students' career goals, transfer specific programming, and transfer specific constructs developed and affected their trajectories. The dimensions we chose are:

- *Dimension #1 - Life events:* Building from Rowland et al. (2019) and our previous work with exploring the trajectories of transfer students [1, 4], we include this dimension to support both the participant and the interviewer to understand what larger events in the participant's life were happening. From our previous study, we found that the life events for each transfer student path are unique [1]. Thus, it is important for the interviewer to understand the participant's major life events as they influence their choices, lives, and ultimately their trajectories as transfer students.

- *Dimension #2 - People / Community / Supporters:* Dowd et al. (2013) demonstrated the role institutional agents can play in promoting transfer student success [23]. In much of the transfer literature that explores transfer experiences, the data shows strong influences from family, friends, communities, advisors, and professors (e.g. [1, 19, 28, 29]). This dimension explores the people with which transfer students interact and how they impact that transfer student's trajectory.

- *Dimension #3 - Transfer Student Resources / Programs:* This dimension aims to unravel the intricate experiences transfer students have when it comes to activities outside of academics. This is done by creating a space in the transfer grid to explore how programs that are designed specifically to support transfer students [30] influence a transfer student's trajectory. This space can support understanding in how a transfer specific program interacts with the participant during a transfer segment as well as how those experiences are shaped by other transfer segments.

- *Dimension #4 - Career Interests and Goals:* This dimension is taken from the life grid tool, as it has been shown to elicit valuable insights into the experiences that influence a transfer student's evolving career and goal trajectories [1, 4]. We use this space to document a transfer student's persistence, when students articulate effort and progress toward the achievement of their own goals or to overcome challenges [1, 31].

C. What does it look like in practice?

When conducting an interview using the transfer grid, we introduce the transfer segments in a way that the participant is given agency to modify their trajectory. After explaining the concept of the transfer grid and modifying the transfer segments to represent their transfer pathway, the interviewer asks about the dimensions:

> "In Transfer Segment #1 when you were at [ADGI], what were some ["Life events"] during that period?"

The interviewer then types the main ideas from the participant's response into the grid. The interviewer tries to use direct quotes from the participant as much as possible and interpret the participant's responses as little as possible. Additionally, both the interviewer and the participant should *view* the transfer grid while it is being filled out. This allows the participant to correct the interviewer if and when the interviewer misinterprets the participant's experiences. The member-checking of the transfer grid happens in real-time with the data and the interpretation co-created by both the interviewer and the participant. This process of asking about the participant's experience per dimension repeats until each transfer segment is completed. The rapport developed should also support the participant in feeling that the grid is flexible and can change to fit their story.

IV. DISCUSSION

Our goal is to have institutional structures be informed by transfer student experiences *and* to have transfer student ex-

periences be upheld through institutional structures. There is existing work making recommendations for how to better support transfer students including peer mentoring programs [21], undergraduate research opportunities [30], and changes to university policy [32]. We offer the transfer grid as a tool to support researchers to understand how structural decisions and programming affect students, not only during the duration of the support, but also after the support.

A. What does the grid help explore in the interview?

The transfer grid helps researchers more fully understand the transfer student experience. This helps transfer students communicate their more full experiences to researchers link experiences within and across transfer segments during interviews. It supports interviewers in probing moments and events that shaped each student's unique trajectory [1], providing structure to document variation across individuals.

The transfer grid, as an interview tool, forms a grounding on which the interviewer can then build on top of with questions around a specific construct. When using this tool to explore specific constructs, such as Transfer Sense of Belonging, Transfer Student Capital, or Transfer Self-Efficacy, the experiences shared across the transfer grid inform and contextualize other parts of the data. In addition to other methods of building rapport in an interview, collaborating on the transfer grid could also be important to the rapport generation process. By doing so, the transfer grid would provide a more detailed and targeted context for exploring these other constructs. The ground work through the transfer grid provides contextual evidence to the experiences transfer students share in their retrospective accounts. This method supports the researcher and the research to see the participant in a more full humanity.

B. What does this method help researchers do?

As researchers, we aim to allow participants to share the part(s) of their story that were influential to understand their transfer journey. The goal of using the transfer grid extends beyond generating a filled out artifact; it is to help guide the conversation to more fully understand the transfer student experience.

This transfer grid design helps to create a deeper understanding of the participant. Specifically, the transfer grid helps the interviewer be 'on the same page' as the participant which is supported through the interview structure of allowing the participant to modify the transfer grid as the interviewer collects their responses as a form of member checking [27]. This is particularly useful when asking nuanced questions about constructs, such as Transfer Sense of Belonging, as they relate to the transfer experience. To this aim, the transfer grid collects contextual data to ensure that the researcher constructs an authentic narrative with the participant to clarify researcher bias and provide a 'thick description'[27]. Such a narrative will include a transfer student's journey, with data on individual constructs themselves. This method supports the validity of the data collected as it ensures that their story is more accurately represented. Consequently, when the researcher pulls claims and individual quotes from the interview, it originates from a clear place in the narrative constructed with the participant.

C. Limitations & suggestions for implementation

This method empowers the researcher to more fully understand a transfer student's experience in the context of what transfer students find influential to their story. We suggest using the transfer grid as a grounding tool and framework of a transfer student's experience to then explore additional constructs that can be affected with a change over time, various spaces, or people. Before deciding to use the transfer grid, consider the questions "What is this going to reveal about X construct?", "What are the stories that exist within these transfer grid boxes that may not be collected in a general interview?" and, "What do I need to explore further that may not be revealed in the transfer grid?".

The completion of a transfer grid can take anywhere between 20 and 60 minutes depending on the participant. This may not always be logistically reasonable. When coupled with post-transfer grid questions on specific constructs the research is exploring, the interviews can extend upwards of 90 minutes. The advantage is that the extended time allows the researcher to collect a significant amount of context and data per participant, but that may in turn restrict the total overall number of participants. This method is specifically designed for a narrative based inquiry research design with a small number of participants.

When a researcher wants to investigate specific constructs in depth and gain a deeper understanding of a transfer student's journey, the transfer grid as a method can support that goal. Consequently, they should recognize the transfer grid is grounded in approaches that recognizes the transfer student's more full humanity.

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