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Informed Self-Placement Today

An Exploratory Study of Student Outcomes and Placement Practices

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Each year large numbers of college students are placed into developmental education, but these students are less likely to graduate than their peers who begin in college-level courses. There is evidence that many of those placed into developmental education courses could succeed in college-level courses.¹ In recent years, new placement systems and curricular models designed to increase the number of students placed into entry-level college courses have emerged. These systems aim to more accurately identify students who may benefit from some type of developmental instruction and those who are ready for entry-level college courses. Examples of these include multiple measures assessment and the use of corequisites rather than prerequisites.² Another type of placement system is informed self-placement (ISP). ISP is a placement system in which colleges provide information about placement policies, available courses, and other relevant topics to engage students as active participants in their own placement. In addition to ISP, terms that have been used to describe this type of placement include directed self-placement and guided self-placement.

Over the past eight years, the Center for the Analysis of Postsecondary Readiness (CAPR) has helped to establish rigorous evidence about which placement and developmental education reforms are effective in improving students' college success.³ Maintaining focus on advancing the field's knowledge on how to improve students' success in the long term, CAPR undertook an exploratory study of ISP to better understand this method of placement. ISP is of particular interest because it does not rely solely, if at all, on standardized test scores—a positive development because research shows that standardized test scores are not reliable predictors of performance in college. ISP was of particular interest during the COVID-19 pandemic, when this study began, because many colleges experienced difficulty administering standardized tests and were seeking reliable placement methods that could be easily used in a virtual setting.⁴

CAPR's recent review of the literature predating the pandemic describes practitioners' rationale for ISP as well as the methods and materials commonly used to implement it.⁵ Within the literature, there is a lack of conclusive evidence about the impact of ISP on students' placement or performance. The CAPR literature review found that ISP and the other terms mentioned above have been used to describe a wide range of overlapping practices over time. Additional information about student outcomes and implementation strategies related to ISP according to the literature are available here.

To help practitioners and policymakers better understand ISP, this brief includes a discussion of the following items:

- descriptive data on course enrollment and course completion outcomes under ISP and more traditional placement methods, in aggregate and by demographic subgroups
- a wide variety of current ISP practices being implemented nationally since the beginning of the pandemic
- a typology to help differentiate these various placement systems
- barriers and facilitators to the implementation of ISP

Research Methodology

As part of the one-year exploratory study on ISP, CAPR researchers sought to describe course enrollment and completion trends among students placed using ISP practices and to define and document varied approaches to ISP. This research draws from two approaches: descriptive data collected from three Nevada institutions and qualitative research grounded in national data. This section describes the sampling strategy and analytic approaches utilized for this study.

Researchers collected demographic and outcome data on students' math and English course enrollments and completions over the last five academic years at three Nevada colleges offering associate's and bachelor's degrees: Great Basin College (GBC), Nevada State College (NSC), and Western Nevada College (WNC). Nevada was selected for this analysis because

many colleges in the Nevada System of Higher Education (NSHE) have recently implemented some form of ISP for math or English placement. These specific colleges were selected from those in the NSHE system based on their interest in ISP and their institutional capacity to provide data. These colleges' implementations of ISP provided institutional guidance as well as student choice as part of their placement systems. (These elements of ISP models are discussed further in the qualitative section of the brief.) The data were collected to quantitatively describe the population of students affected by the various developmental education reforms and other external forces in Nevada in recent years, including economic fluctuations and the pandemic, as well as to generate hypotheses about the potential of ISP to improve student success in college-level courses.

Qualitative data were sequentially drawn from purposive samples of three distinct groups that provided information about ISP on a national scale, including: (1) higher education researchers, scholars, and intermediaries focused on the area of assessment and placement practices, (2) system-level representatives in states where ISP practices are being implemented, and (3) faculty and staff from a subset of higher education institutions that are currently implementing some form of ISP.⁶ Given the relatively recent expansion of ISP practices amid COVID-19, potential subjects were identified through recommendations from an initial group of research participants. Outreach was conducted for every state identified as a potential candidate in the authors' conversations with researchers, scholars, and intermediaries. From those states, a subset of colleges was selected based on the schools' familiarity with and history of implementing ISP. A second criterion for selection was the need for a diversity of geographical locations and higher education governing structures (system control or independent colleges) in the final sample. Specific participants were selected based on their knowledge of placement and assessment practices and reform, their role in developing placement policies and guidelines, or their role in implementing and designing placement systems. Participants were interviewed by members of the project team using a semistructured protocol. In total, 28 interviews were conducted with 6 researchers, scholars, and intermediaries; 15 system leaders across 14 states; and 39 faculty and staff from 7 colleges. Data were thematically analyzed to identify patterns across interviews.

Descriptive Data Analysis

CAPR researchers worked with three NSHE institutions to collect student-level data on enrollment in and completion of math and English courses before and after ISP implementation. The descriptive analyses below are motivated by an interest to better understand the following:

- base rates of enrollment and completion in developmental, corequisite, and college-level courses in a system that is turning to ISP as an option for many students
- demographic disparities in outcomes before and after ISP in these institutions
- trends in enrollment and completion over the last five years, before and after ISP, to generate hypotheses about the extent to which ISP may or may not help students, as well as identifying other factors that may have confounded ISP effects during this time

The move from placement testing to other placement methods has been underway in Nevada for some time, but it has overlapped with other changes that also affect students' enrollment and completion of courses, namely, the implementation of corequisite models. All NSHE colleges transitioned to a fully corequisite model and ceased offering developmental prerequisites in fall 2021, but many colleges began offering some corequisite courses before then.⁷ Meanwhile, the timing of ISP implementation varied greatly across colleges and course subjects. Three two-year institutions provided student-level data to CAPR, as follows:⁸

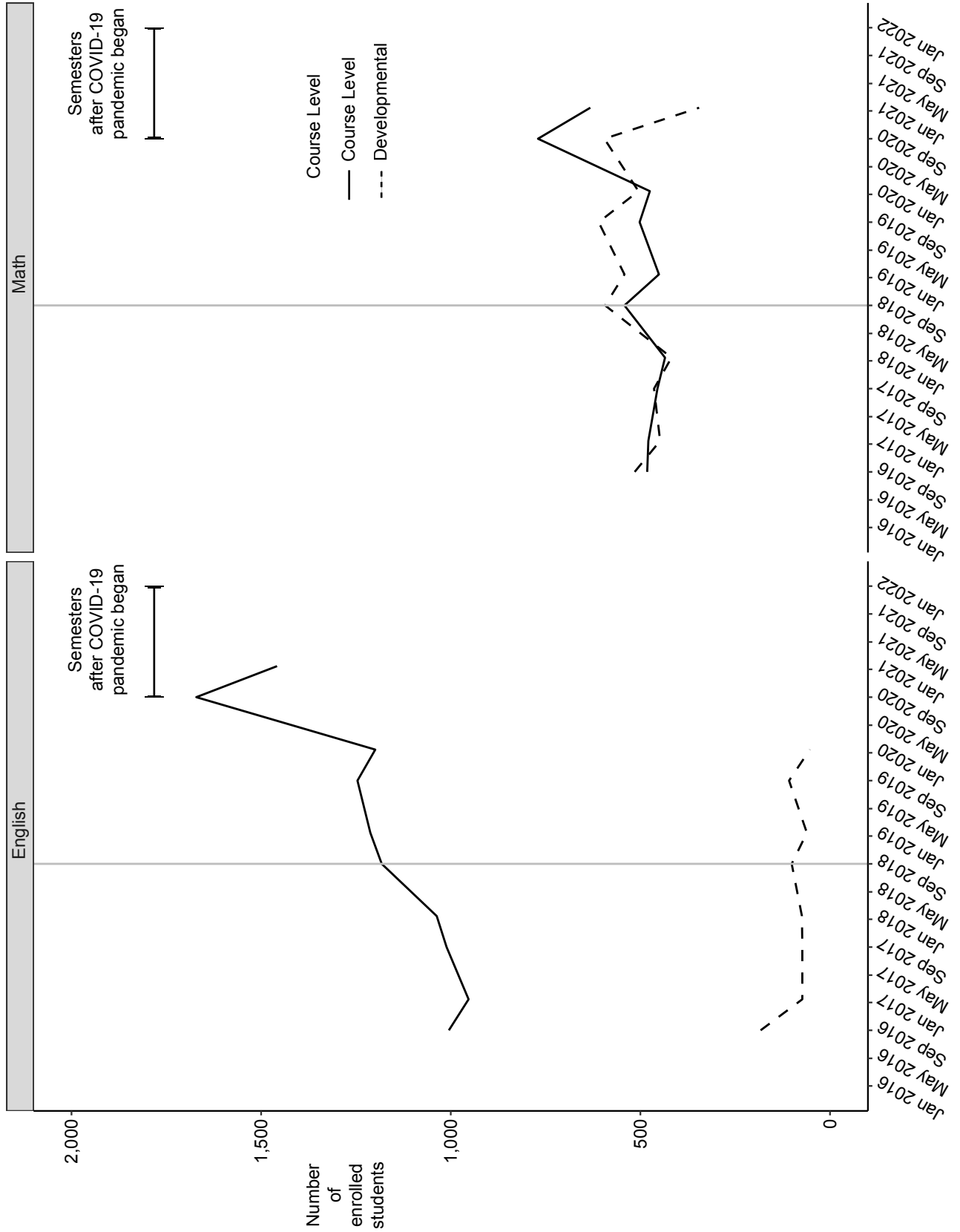
- GBC has been using ISP for English placement since the 2018-2019 academic year and began using ISP for math placement in fall 2021.
- NSC's English department began using ISP in 2016 as a pilot and gradually increased to full scale implementation in 2019.
- WNC has been using ISP unofficially since 2019 and officially since fall 2020.

Below are the three main conclusions from the analysis of the data:

Enrollments in math and English courses have fluctuated in recent years for a number of reasons but are generally on the rise. Appendix Figures A.1 and A.2 show enrollment patterns in college-level and developmental math and English courses between fall 2016 and summer 2021 at the three Nevada colleges that adopted ISP during that time and provided transcript data for this study. While the number of students enrolling in these courses fluctuated over the period, there is limited correspondence between the introduction of ISP (represented by a circle) and college-level enrollment numbers. NSC grew by 93 percent as an institution from fall 2016 to fall 2020, which explains much of the upward trajectory seen here, but the school also began introducing corequisites in both subjects starting in fall 2016. GBC shows more students enrolling in English compared with math, and there is a larger upward trend in English starting when ISP was introduced. However, these data must be interpreted with caution. GBC introduced ISP in only one subject (English), offering a chance to compare college-course enrollment trends in the same institution, with and without this placement change (as shown in [Figure 1](#)). Comparison of trends at GBC by subject helps generate some hypotheses as to whether enrollment changes seen in English but not in math could be attributable, in part, to ISP. This case study is particularly compelling because GBC introduced corequisites in fall 2018 for both subjects but, as noted above, ISP was introduced only for English. Again, the English trend in college-level course enrollments does increase immediately after ISP introduction, while enrollments for math tick down slightly. Both trends, however, rise sharply in January 2020 just before they are reversed following the start of the pandemic. This particular case for ISP is promising but inconclusive because of numerous other observable and unobservable correlated factors affecting these trends, including but not limited to other reforms, the economy, and the pandemic. Future research into informed self-placement should seek to isolate the effects of this intervention from other potentially confounding factors.

The WNC trend is somewhat similar to GBC's trend in math, although at a higher rate of college-course enrollment, but quite different in English. Perhaps GBC's earlier introduction of ISP

FIGURE 1. English and Math Enrollment Trends Over Time (Great Basin College) Fall 2016 to Summer 2021



SOURCE: Transcript data provided by Great Basin College.

NOTE: The vertical line represents the start of informed self-placement for English and the start of corequisite enrollment.

in that subject played a role in the divergence of the two trends, but the COVID-19 pandemic dampened enrollments at all three colleges, making the impact of WNC's introduction of ISP particularly difficult to disentangle from the effects of the pandemic in these data.

Since the introduction of ISP, the percentage of enrolled students taking and completing college-level math and English courses has been increasing. The top panel of Appendix Table A.1 shows the percentage of students enrolled in math and English courses at the participating colleges, before and after ISP was introduced. Colleges that had data only after ISP, or that did not introduce ISP for a given subject, are not included. The first row of the table shows that a smaller percentage of enrolled English students took developmental courses than did enrolled math students. This reflects the general tendency of placement systems around the country to classify fewer students as college-ready in math than in English, thereby sending more students into developmental courses in math than in English.⁹ This row also shows a smaller percentage of enrolled students taking developmental prerequisites in the years since the introduction of ISP. This is likely as much a result of the introduction of corequisite remediation in more recent academic years as it is of ISP placement. The next row shows that more students are enrolling in corequisite courses following the implementation of ISP at these three colleges than before, likely for the same reason (more corequisites being offered recently). The third row shows that the percentage of students enrolling in college-level courses in each subject has increased since ISP was introduced, slightly so in English and more so in math. Importantly, these college-level course enrollments are affected by the increasing use of corequisites, which put students into a college-level course right away. ISP could be affecting all of these percentages as well.

In the next panel of Appendix Table A.1, which shows English and math course completion with a C or higher, we see the same patterns repeated as with enrollments: a smaller percentage of enrolled students completing developmental courses in English than in math, especially since ISP introduction; a higher percentage completing corequisites in recent years in both subjects, again since ISP introduction, but not necessarily because of it; and a higher percentage completing college courses in recent years.

ISP is being implemented among a diverse student body at these Nevada colleges, but there is little indication of closing equity gaps in completion of math and English college-level courses so far. Appendix Table A.2 presents the demographic characteristics of the students from the three colleges that provided transcript data for this study.¹⁰ The age distribution represented here, a mix of young and older students, is typical among postsecondary institutions in the U.S.¹¹ Likewise, there were more women enrolled than men in this time period, similar to most higher education institutions. The race/ethnicity breakdown varies across institutions, with Great Basin and WNC having about 60 percent White students and 20 percent Hispanic, while other racial categories are in the single digits.¹² NSC, known as a Hispanic serving institution (HSI), has much higher percentages of Hispanic (36 percent), Asian (11 percent), and Black (8 percent) students than the other two colleges, with a far lower percentage of White (26 percent) students. Appendix Table A.3 shows the percentage

of students enrolling in college-level courses in each subject before and after ISP was introduced at their institution, broken down by demographic subgroups. The representation of each subgroup in these courses is quite stable over time. There is some change in the age composition after the introduction of ISP, with more of the youngest students enrolling in college-level English but more older students enrolling in college-level math. The gender composition of these courses and the race/ethnicity breakdown are mostly stable, but the proportion of White students enrolling in college-level English post-ISP was slightly smaller while the proportion for Black, Asian, and other race categories slightly increased. However, ISP does not appear to be strongly associated with changes in equity gaps in enrollment or completion of math and English courses, especially in math. Changes in course offerings and overall enrollment patterns are as likely to have affected these proportions as ISP.

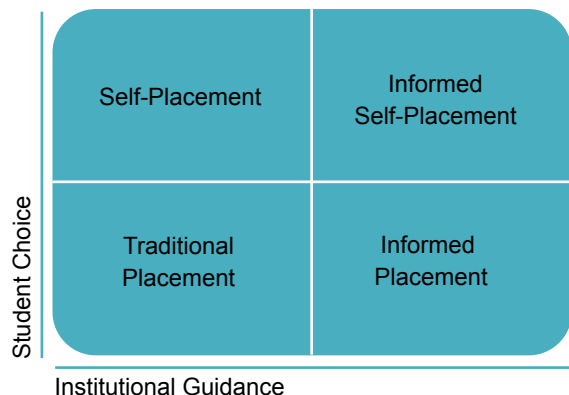
Qualitative Data Analysis

The trends observed in the descriptive data described above are generally positive: an increasing number and percentage of students taking and passing college-level courses, although it is not possible to attribute the observed changes to any specific cause. Indeed, while the introduction of ISP is not associated with reductions in college-level course completions in either math or English, several simultaneous factors were identified that corresponded with the upward movement in outcomes. This underscores the need for more rigorous methods to isolate the causal effects of ISP. To this end, CAPR has supplemented these descriptive analyses with an investigation of the ISP construct, paving the way for a rigorous evaluation in a future study. The results of this qualitative investigation are elaborated below.

Describing Placement Policies and Practices

Given that the field is rapidly evolving, with states and systems implementing different approaches to assessment and placement, CAPR researchers used existing research on placement practices as well as interview data to develop a framework to better understand variations in placement policies and practices. These data reveal that different placement systems can be characterized by the extent to which they demonstrate two significant features: student choice and institutional guidance. Student choice is defined as the degree to which students have full discretion over the final placement decision, including enrollment in college-level courses; institutional guidance is defined as the degree to which students are provided with information about courses, programs, and pathways and have the opportunity to reflect on their experiences, skills, and preferences relative to course options. Placement systems can be described as the interaction between these two features, as shown in [Figure 2](#), wherein the level of student choice is represented on the vertical axis and the level of institutional guidance is represented on the horizontal axis. Each of these features can be considered along a continuum, where a given placement system can have low or high levels of choice or guidance.

The location of a placement system along the vertical axis reflects the degree of control or choice students have over their own placement. A high-choice placement system may

FIGURE 2. Guidance-Choice Continuum

exist in systems or colleges that have eliminated placement tests or made developmental education optional, such as Florida. Some institutions temporarily had high choice early in the pandemic, as this was an alternative when administrators had not figured out how to place students remotely. In a low-choice placement system, the power to make a placement decision rests with the institution. A placement system's location along the horizontal axis reflects the amount of information

the institution provides students about course placement options and the degree to which they facilitate students' reflection on the placement appropriate for them. In a high-guidance placement system, information may be provided online, in a group orientation session, or in an advising session. Such sessions are meant to monitor the process wherein students reflect on their skills and life circumstances and consider which course is most appropriate for their academic goals. In a low-guidance placement system, students are provided with minimal information about their course options and few opportunities to reflect on their skills and life circumstances.

Figure 2 underscores that placement systems can be implemented in a variety of ways represented by different permutations of choice and guidance. Choice and guidance, for example, are not necessarily implemented in tandem or at comparable levels. Moreover, institutional guidance can exist independent of student choice and vice versa.

Choice and Guidance in Practice

This section describes various placement systems to illustrate differences in the degree of choice students have and the guidance they receive about their course options.

Traditional placement

In traditional placement systems, students have little to no choice over their placement decision and may receive minimal guidance about their course options. Students are required to take standardized tests and, if a multiple measures system is used, may be asked to submit measures of academic performance as well. Students may have the option to appeal their placement decision, or they may be allowed take a lower-level math or English course than their placement decision recommends, but in general students are not allowed to enroll in a higher-level course than their placement decision dictates. Students' opportunities to learn about and discuss their level of comfort with the courses into which they are placed varies in traditional placement systems. Research suggests that traditional placement exams such

as Accuplacer underestimate students' ability and restrict access to college-level courses for students who could have been successful.¹³ The use of multiple measures to assess and place students can increase overall access to college-level coursework, but research suggests that existing equity gaps may persist.¹⁴

Informed placement

In informed placement systems, students receive extensive guidance about their course options but have little to no choice over their placement decision. Westchester Community College (WCC) in New York is an example of an institution using this type of system. In the beginning of the pandemic, WCC sought a way to place students remotely. Administrators considered using a remote Accuplacer test or requesting high school transcripts but decided instead to administer a survey for math and English to generate a placement decision. This survey is administered via the Qualtrics online survey platform, and it takes approximately 30 minutes to complete. The survey asks students to provide their standardized test scores, history of courses taken, and academic performance history and to discuss their study habits. The survey provides information to students about the courses into which they can be placed but does not allow them to choose their own placement. A student who does not receive a placement waiver for either subject must take the directed self-placement survey and comply with the results. Students are required to speak with an advisor about their placement decisions, but the conversation is to clarify the placement decision, not necessarily to change it. Additionally, a small proportion of students do not have access to informed placement; only the students with a high school diploma or equivalency degree are eligible. Though informed placement systems provide students with more information about their course options than traditional placement systems, they still limit students' choice.

Self-placement

In self-placement systems, students have full control over their placement decisions but receive little guidance about their course options. One study describes a system of low guidance and high choice in California. In the study, the authors examine the impact of self-placement, where students are allowed to choose between developmental or college-level courses.¹⁵ In this particular system, students were allowed to choose their initial math course after a conversation with an advisor, but it was not clear to the researchers that all students actually met with an advisor. Providing students with a choice without guidance had inequitable effects for students. The authors found that among White, Asian, and male students, self-placement resulted in fewer withdrawals and more students passing their initial math course. The authors found no benefits for female, Black, and Hispanic students and suggest that these students were more likely to choose or be counseled into a lower-level course. While self-placement systems removed barriers to college-level courses, the authors hypothesize that under such systems students may be at risk of conforming to stereotypes and biases that perpetuate longstanding inequities in placement by gender and race.

Informed self-placement

In informed self-placement systems, students are provided information and asked to reflect on their course options and they have full control in choosing their courses. Western Nevada College (WNC) and St. Petersburg College (SPC) are two examples of colleges that provide informed self-placement. These colleges offer a high degree of guidance because they intentionally provide students with assistance in making their placement decisions. They are both high-choice colleges as a result of state-level legislation. In Florida, as a result of SB-1720, placement exams and developmental education are optional.¹⁶ In Nevada, as a result of the NSHE Corequisite and College-Ready Gateway Policy, prerequisite remediation has been eliminated as of fall 2021.¹⁷

At WNC, entering students take a survey where they are asked questions about their reading and writing skills and interest levels with regard to English and math classes. In math, students are asked a set of diagnostic questions, but the emphasis is on helping students gauge their level of skill and comfort with the content. The survey explicitly tells students that their grade on the diagnostic quiz is less important than their feelings about their aptitude to master the work. After each question, their course options are described to them, and students are informed that the corequisite course will provide them with any additional support needed to master this content. At the end of the survey, students are asked to enter the course that they feel is appropriate.

At SPC, there is an emphasis on training advisors to appropriately guide students to the correct course. Advisors are trained to ask about math anxiety and read body language so that they can help guide students. Taking a case management approach, the advisor is expected to build a relationship with a student and be a source of support and information. Advisors and students will go over the student's high school transcript and have a conversation about the courses available to the student. Unless they meet with an advisor, students are not permitted to pick and register for courses. This intentional emphasis on advising before students choose their courses is an example of high guidance and high choice.

The high level of guidance and choice provided to students in an ISP system has the potential to improve equity. High guidance can lead to more equitable outcomes because students are supported to make an honest assessment of their skills, learn more about course content, and determine the level of support they need to be successful. In a high-guidance placement system, students have the opportunity to develop relationships with advisers, discuss their academic background, and make an informed decision that best suits their needs. This has important equity implications because research shows that Black and Hispanic students are more likely to have had negative academic experiences that have a detrimental effect on their beliefs about their capabilities, independent of their actual skill level.¹⁸ ISP offers an opportunity for advisors to encourage and motivate students to identify and believe in their abilities. Despite these potential benefits, high guidance can also lead to inequitable outcomes if the guidance students receive is biased. When students have conversations with advisors to help them make a placement decision, any biases or misinformation held

by an advisor will influence students' decision-making. Placement systems that provide high guidance are best poised to create equitable outcomes when advisors have been trained to identify the biases they hold and to prevent those biases from overshadowing the guidance they provide to students.

Similarly, high choice when combined with good guidance may also lead to more equitable outcomes by removing the barriers to college-level courses that traditional and multiple measures placement systems pose. In high-choice systems, students are able to control their own academic trajectory and progress at a pace of their choosing. High-choice systems can exacerbate inequalities, however, if some students are not allowed to make their own placement decisions. For example, if students are required to provide recent high school math grades or SAT scores before being eligible to determine their placement level in an ISP system, English learners, international students, and adult learners are likely to be excluded from the potential benefits of ISP. In addition, if the courses into which students can place themselves are restricted, inequitable outcomes may persist. Placement systems that provide high choice can be implemented most equitably if all students can engage in the decision-making process.

Thinking Beyond Guidance and Choice with ISP Implementation

There are factors beyond choice and guidance that characterize the implementation of an ISP model in practice, such as implicit biases among stakeholders providing guidance to students; eligibility criteria for ISP; collaboration and buy-in among institutional stakeholders; high costs in both money and time needed to sustain ISP implementation; and statewide policy mandates focused on assessment and placement. While these factors are beyond the scope of this study, they may have important implications for student outcomes and warrant examination. Interviews with various stakeholders revealed several important considerations for implementation:

Biases in the placement process. Interviewees from several states questioned whether students actually have increased agency in an ISP model and suggested several ways in which their choices may be constrained by biased policies and faculty and staff practices. These state leaders spoke about how advisors' biases and the power dynamic between advisors and students can result in students making choices that reflect their advisors' beliefs about their ability rather than their own. Interviewees also had clear and consistent equity concerns about the use of ISP and how it would ultimately serve different groups of students. These concerns related to innate sociocultural biases that stakeholders mentioned exist among advisors and faculty and the potential for these to influence student decision-making and beliefs, as well as the potential for disadvantaged students to self-place themselves into lower-level courses due to lack of belief in their ability as well as other socioemotional factors, like math anxiety.

Planning and collaboration/buy-in. Stakeholders also spoke about a number of factors that facilitated the implementation of ISP. One such facilitating factor was the COVID-19 pandemic, which forced most colleges to turn to alternative placement systems, including ISP. Additionally, collaboration and buy-in among college stakeholders were key facilitators to ISP implementation, particularly because of the critical role that advisors play in the ISP placement process. In institutions where advisors were included in the planning and implementation processes, advisors were highly informed about specific course pathways and placement procedures. The provision of professional development training for advisors as well as other college faculty and staff played an important role in improving buy-in and engagement among college stakeholders. Also, colleges that had developed clearly designed course pathways, including math pathways, seemed to be in a better position to implement informed self-placement practices since students' programs of study and goals were already aligned with these pathways. Lastly, state-mandated legislation accelerated and aided in the scaling of ISP in states such as Florida and California, and stakeholders reported that statewide policy mandates allowed for more widespread changes to placement strategies, particularly when the advising components were also included in the statewide guidance. Given that state governance structures and legislation can often dictate the degree of student choice permissible in the ISP process, design and implementation efforts should include participation at both the institutional and system levels. Involving a variety of perspectives in the planning process can aid with collaboration and the distribution of knowledge about best practices for ISP.

Challenges with costs and institutional autonomy. Stakeholders also spoke about barriers to ISP implementation and foreseeable implementation consequences. High costs in both money and time needed to sustain ISP practices, such as intensive advising and the collection of student placement measures, were mentioned as obstacles to implementation, especially for colleges with larger student populations. Smaller colleges had more opportunities for holding comprehensive one-on-one advising sessions with students, while staffing capacities made this less feasible at larger institutions. Whereas costs associated with alternative placement systems are known to fall over time, those associated with ISP may not (at least not at the same rate). In addition to start-up costs, colleges should expect ongoing costs associated with maintaining and updating ISP tools and communication materials and increased staff time for faculty and advisors who engage with students during the ISP process. In addition, just as buy-in across the institution facilitated implementation, the lack of buy-in and the perception among faculty of ISP as an invalid and inaccurate placement system also limited the success of implementation. Finally, in some states, barriers to ISP implementation included resistance and hesitancy to top-down approaches to placement systems, including the minimization of institutional autonomy.

Conclusion

The data collected for this exploratory study suggest that ISP has the potential to improve students' access to college-level coursework. Although more research is needed to understand

the causal impacts of ISP on student outcomes, descriptive data from three NSHE institutions that have implemented ISP in recent years show that:

The introduction of ISP has not been associated with reductions in college-course completions in either math or English. On average, enrollments and completions of college-level courses in both subjects are higher since ISP than before.

There is little indication that equity gaps in college-level course completions have become smaller since ISP's introduction. On average, about the same proportion of students from each demographic category are completing college-level courses after ISP as before.¹⁹

Stakeholder interviews revealed important considerations for states and institutions interested in implementing ISP, as follows:

Equity. In order to reduce disparities, students, particularly those from traditionally marginalized groups, must be afforded the confidence, resources, and support necessary to select into college-level courses. When ISP models are not intentionally designed for equity, implicit biases in the guidance provided to students may perpetuate or even exacerbate inequities observed under traditional placement methods. Efforts should be made to ensure that the information shared with students and the language used to convey it does not implicitly or explicitly value certain courses or types of students over others. To this end, institutions might consider providing advisors and instructors with antibias training designed to uncover their own biases and to empower them to help students exercise their own choices and avoid bias impacts.

Access. Ensuring equitable access to ISP, particularly for historically marginalized student groups, should be a primary focus of consideration for colleges seeking to implement ISP. More specifically, institutions should examine their required placement measures to ensure that all student groups would be eligible for ISP.

Pathway/course clarity and communication. For ISP to be successful, students need to select into courses that they are likely to succeed in and that are appropriately matched to their academic and career aspirations. To do this, students must be given adequate information about course options, curriculum alternatives, and available supports. College faculty and staff must reach agreement on curriculum, course, and program goals and requirements and produce materials that accurately and effectively convey this information to students. Failing or struggling to complete this step can impede implementation.

Though informed self-placement offers a potential solution to unnecessary developmental education, the field lacks rigorous evidence on the effectiveness of these practices and how they interact with other popular student success reforms. More information is also needed about implementing informed self-placement, specifically how to provide unbiased advising,

how to prevent students in particular groups from underestimating their abilities, and how to provide additional support to students who may struggle in the corequisite context. This brief provides an opportunity for systems and institutions to evaluate their placement system relative to the degree of choice and guidance provided and to consider changes that will boost student progression and success.

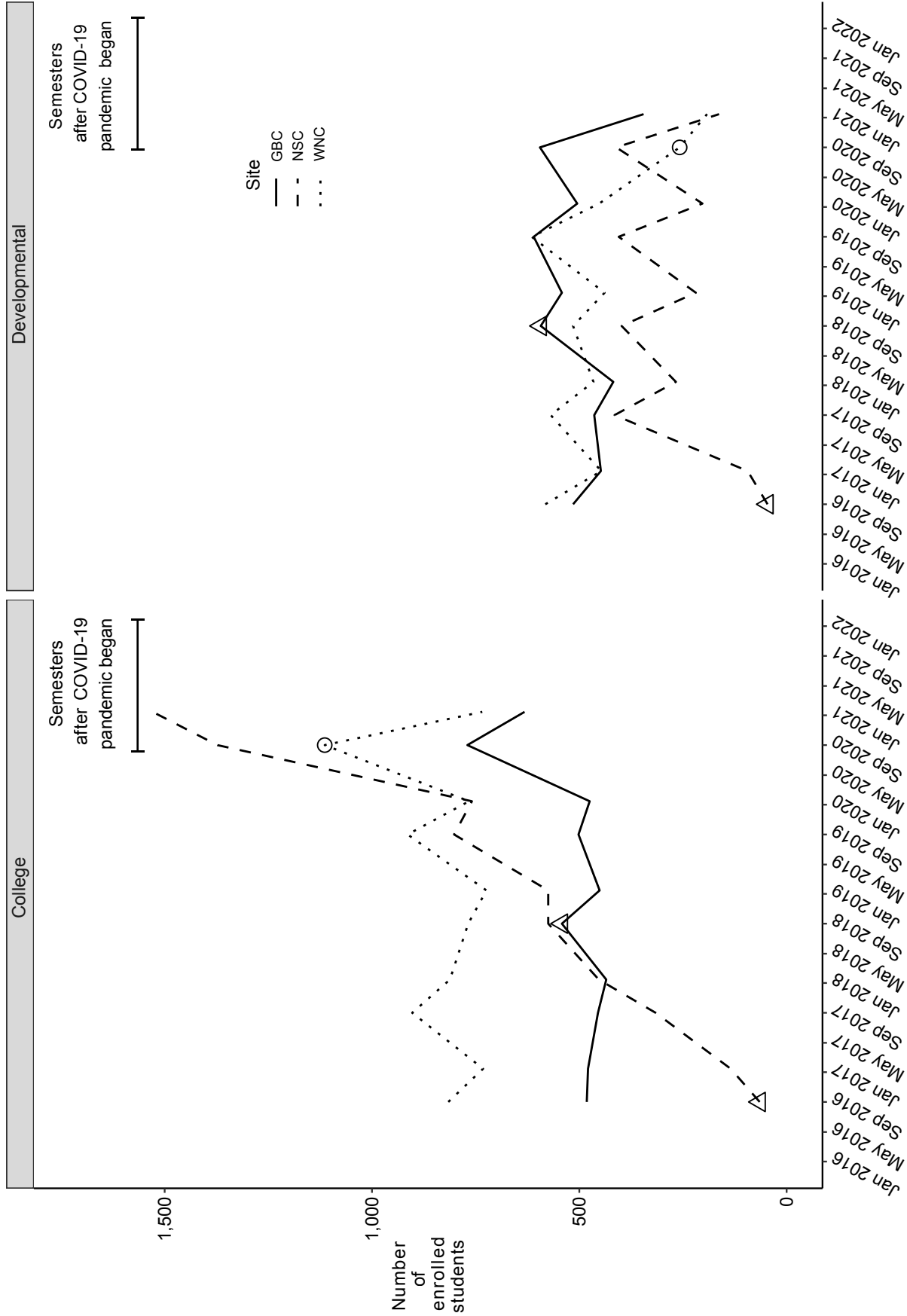
Notes

- 1 Bailey et al. (2010).
- 2 Rutschow, Cormier, Dukes, and Cruz Zamora (2019).
- 3 Center for the Analysis of Postsecondary Readiness (n.d.).
- 4 Cullinan (2020).
- 5 Morton (2022).
- 6 Purposive sampling techniques are used to identify and select participants that exhibit a certain set of predefined criteria or characteristics of interest. The resulting sample is not necessarily representative of the larger population.
- 7 This meant that prior to fall 2021, students could choose between college-level courses and corequisites as well as pre-requisites in some cases.
- 8 The other institutions had only recently considered ISP: the College of Southern Nevada has a Title V placement system in development; the University of Nevada Las Vegas did not have ISP implementation at the time of this research; and the University of Nevada, Reno began ISP for English in 2021 and provided CAPR with aggregated demographic data.
- 9 Chen (2016).
- 10 In the data provided, 62 percent of enrolled students from WNC were missing demographic information. Overall, across all sites, 16 percent of enrolled students were missing demographic information.
- 11 National Center for Education Statistics (2021).
- 12 The University of Nevada, Reno, provided aggregate demographic data, which was proportionally similar to that of Great Basin and WNC.
- 13 Scott-Clayton (2012).
- 14 Barnett, Kopko, Cullinan, and Belfield (2020).
- 15 Kosiewicz and Ngo (2019). The college arrived at this natural experiment due to a glitch in computer systems, but the glitch provided an opportunity to understand the impact of letting students determine their own placement. Self-placement may also exist in states, like Florida, where developmental education has been made optional.
- 16 Florida Senate (2013).
- 17 Nevada System of Higher Education (n.d.).
- 18 Brathwaite, Fay, and Moussa (2020).
- 19 These findings are descriptive, not causal. Because NSHE's introduction of corequisites roughly corresponds with ISP's introduction at these colleges, as do other economic and pandemic-related forces that might change student behavior, any changes to course enrollments and completions in recent years, or the lack thereof, cannot be attributed solely to ISP.

Appendix

Descriptive Data Analysis Figures and Tables

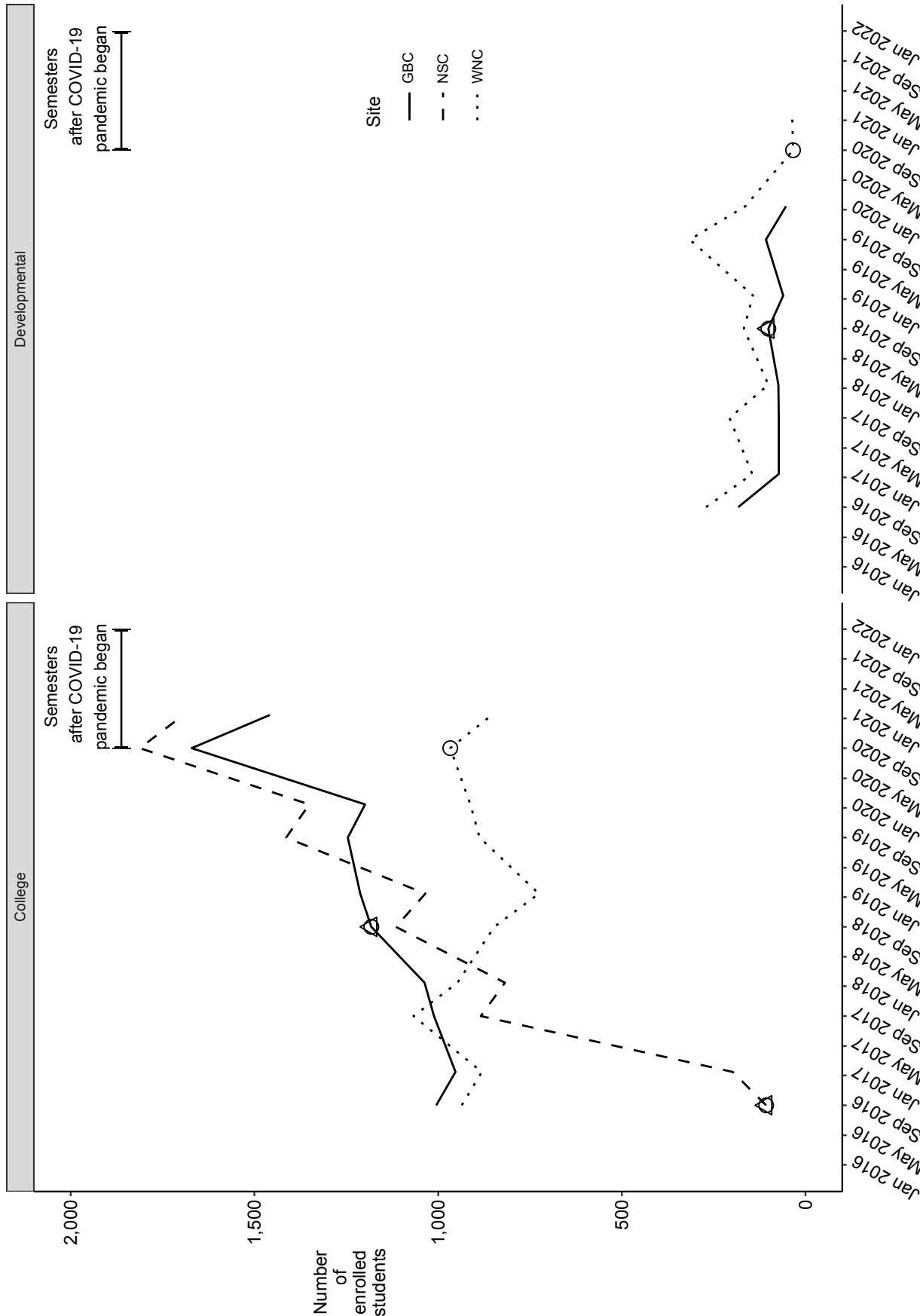
APPENDIX FIGURE A.1. Math Enrollment Trends Over Time (by College) Fall 2016 to Summer 2021



SOURCE: Transcript data provided by Great Basin College (GBC), Nevada State College, (NSC) and Western Nevada College (WNC).

NOTES: The circular points indicate when informed self-placement (ISP) started at each college. The triangular points indicate when corequisite enrollment models started at each college. Only WNC implemented ISP for math in the time period covered by these data. WNC implemented corequisite enrollment prior to the time period covered by these data.

APPENDIX FIGURE A.2. English Enrollment Trends Over Time (by College) Fall 2016 to Summer 2021



SOURCE: Transcript data provided by Great Basin College (GBC), Nevada State College (NSC) and Western Nevada College (WNC).

NOTES: The circular points indicate when informed self-placement (ISP) started at each college. The triangular points indicate when corequisite enrollment models started at each college. WNC implemented corequisite enrollment prior to the time period covered by these data.

APPENDIX TABLE A.1. Course Enrollment and Completion, by Timing of Informed Self-Placement, Fall 2016 to Summer 2021

Outcome (%)	Took English Before ISP	Took English After ISP	Took Math Before ISP	Took Math After ISP
Ever enrolled in course				
Developmental	22.1	10.7	54.0	45.3
Corequisite	10.9	27.7	4.3	11.9
Gatekeeper or higher	90.1	96.9	74.1	88.9
Ever passed course				
Developmental	15.3	8.1	38.7	37.7
Corequisite	7.6	18.5	3.5	8.3
Gatekeeper or higher	71.2	75.1	57.7	69.0
Ever passed other subjects				
College-level	79.1	78.0	79.4	81.0
Sample (total = 16,086)	7,783	6,250	5,547	1,603

SOURCE: Transcript data provided by Great Basin College (GBC), Nevada State College (NSC) and Western Nevada College (WNC).

NOTES: Rounding may cause slight discrepancies in sums and differences.

The categories of "before" and "after" are not mutually exclusive within a given subject. For example, students could have taken an English course before informed self-placement (ISP) started at their college and again afterwards.

ISP started in fall 2018 for English and fall 2021 for math at GBC, and it started in fall 2020 for both subjects at WNC. NSC started ISP for English in spring 2016. To ensure that calculations reflected data from before and after ISP implementation, only WNC data were used for math calculations and NSC data were excluded from English calculations.

**Appendix Table A.2. Characteristics of All Enrolled Students (by College)
Fall 2016 to Summer 2021**

Outcome (%)	Great Basin College	Nevada State College	Western Nevada College
Age			
20 or younger	53.2	51.6	42.2
21-30	20.8	27.8	28.1
31 and older	25.8	20.5	29.7
Age missing	0.2	0.0	0.0
Gender			
Woman	62.8	72.9	56.0
Man	37.0	27.1	43.9
Gender missing	0.2	0.0	0.0
Race/Ethnicity			
Asian	4.0	11.4	2.2
Black	5.4	8.0	3.9
Hispanic	18.7	36.4	21.5
White	58.5	25.5	60.2
Other ^a	8.0	9.0	6.7
Race/ethnicity missing	5.5	9.7	5.5
Sample (total = 32,873)	14,905	13,959	4,009

SOURCE: Demographic data provided by Great Basin College (GBC), Nevada State College (NSC) and Western Nevada College (WNC).

NOTES: Rounding may cause slight discrepancies in sums and differences.

These data exclude students who did not provide demographic data to the colleges (this occurred for a large portion of enrolled students at WNC).

Informed self-placement (ISP) started in fall 2018 for English and fall 2021 for math at GBC, and it started in fall 2020 for both subjects at WNC. NSC started ISP for English in spring 2016.

^aThe "other" category includes Native American, Alaska Native, Pacific Islander, and students who identified as two or more races or ethnicities.

Appendix Table A.3. Characteristics of Enrolled Students, by Timing of Informed Self-Placement (ISP) Fall 2016 to Summer 2021

Outcome (%)	Took English Before ISP	Took English After ISP	Took Math Before ISP	Took Math After ISP
Age				
20 or younger	65.0	70.8	64.0	56.7
21-30	19.3	14.8	19.3	23.3
31 and older	15.7	14.4	16.6	19.9
Age missing	0.0	0.0	0.0	0.0
Gender				
Woman	60.4	61.8	60.1	60.5
Man	39.5	38.1	39.8	39.5
Gender missing	0.1	0.1	0.1	0.0
Race/Ethnicity				
Asian	2.0	2.5	2.0	3.7
Black	2.4	5.7	3.6	2.4
Hispanic	23.1	23.0	23.6	24.9
White	60.6	55.7	58.2	58.1
Other ^a	7.4	8.6	8.2	6.1
Race/ethnicity missing	4.5	4.5	4.4	4.8
Sample size (total = 10,278)	4,240	5,392	6,813	707

SOURCE: Demographic and transcript data provided by Great Basin College (GBC) and Western Nevada College (WNC).

NOTES: Rounding may cause slight discrepancies in sums and differences.

These data exclude students who did not provide demographic data to the colleges (which occurred for a large portion of enrolled students at WNC).

The categories of "before" and "after" are not mutually exclusive within a given subject. For example, a student could have taken an English course before informed self-placement started at their college and again afterward.

Informed self-placement (ISP) started in fall 2018 for English and fall 2021 for math at GBC, and it started in fall 2020 for both subjects at WNC. NSC started ISP for English in spring 2016. To ensure that calculations reflected data from before and after ISP implementation, only WNC data were used for math calculations and NSC data were excluded from English calculations.

^aThe "other" category includes Native American, Alaska Native, Pacific Islander, and students who identified as two or more races or ethnicities.

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