



TUTOR.COM

Participation and Perceptions of Tutoring in Spring 2022

**Office of Research and
Strategic Improvement**

October 2022

FAIRFAX COUNTY PUBLIC SCHOOLS

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Acknowledgements

The Office of Research and Strategic Improvement (ORSI) would like to thank the following Fairfax County Public Schools (FCPS) staff for their support and engagement in the research process for this report:

Staff from the Office of School Support:

- Joash Chung, manager, Tutoring Services
- Karen Durocher, manager, MTSS

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Introduction

In SY 2021-22, FCPS contracted with www.Tutor.com (TPR Education LLC doing business as The Princeton Review) to provide tutoring as an academic intervention to students in need of additional supports. This service was procured as a supplemental service to the school-based interventions that were provided. The resource was offered at no charge to students and families and cost the division a total of \$488,000. This cost was covered by the state's ESSER set-aside grant. The cost for this program was a cost per FCPS enrolled student pro-rated for the time period the service was available during the school year (188,000 FCPS students at \$2.60 per license). Although the Request for Proposal for online tutoring services closed in September 2021, the contract was not awarded until March 2022. The resource became available in April 2022, late in the school year, coinciding with the final quarter of the school year. In SY 2022-23, the estimated cost to the division is \$2.82 million (188,000 FCPS students at \$15.00 per license).

Data from Tutor.com were analyzed to understand who used the intervention service, the frequency and length of use, and tutor and student perceptions of the tutoring experience.

Key findings are:

- The large majority of students did not access Tutor.com in the last quarter of SY 2021-22, when tutor.com access became available. Of those that did, they accessed Tutor.com for limited time. While the cost per student was a fixed cost, the limited usage of the service drove the cost per participant up.
- Asian students and AAP students were disproportionately overrepresented in participation data.
- Students who were not identified as needing academic intervention accessed the resource to a greater extent than those who were identified.
- As shown by tutor ratings of students, the academic needs students displayed in the regular school day also appeared during tutoring.
- Although participation was limited in scope and usage, the majority of students would recommend the tutor based on their experience.

Table 1 below describes the data elements captured by the Tutor.com platform that were the basis of the analyses described in this report.

Table 1: Tutor.com Platform Data Elements

Data	Description
Content mastery alerts	Flags for sessions in which tutors believed a student did not achieve content mastery
Prerequisite knowledge alerts	Flags for sessions in which tutors believed a student did not have the prerequisite knowledge necessary for success with session content
Tutor ratings of prerequisite knowledge and achieved understanding (2 separate items)	The prerequisite knowledge level and the content mastery level students demonstrated in a session on a scale of 1 to 5
Student ratings	Post-session student perceptions of their experience with the resource on a scale of 1 to 5, where 1 was the lowest rating ("poor"), 2 was "fair," 3 was "good," 4 was "very good," and 5 was the highest ("excellent")
Tutor recommendations	Flags indicating whether students would recommend their tutor to a friend after their recent session (yes/no)
Usage data	Length of each session, average session length, total time in all sessions, and number of sessions for each student
Cost data	Total cost of the Tutor.com contract for the division, per student, and per hour of resource use

Key Finding: *In the last quarter of SY 2021-22, when tutor.com access became available, the large majority of students did not access Tutor.com services. Of those that did, they accessed Tutor.com for limited time. While the cost per student was a fixed cost, the limited usage of the service drove the cost per participant up.*

ORSI investigated the extent of Tutor.com usage as a resource. During the fourth grading quarter, 3,189 FCPS students and families, just 1.6% of the FCPS population, accessed the platform for learning support, which equates to a cost per participant of \$153 for those who used it. With a median of 29 minutes among those using Tutor.com during SY 2021-22, data indicate that half of all FCPS users accessing the platform did so for less than 30 minutes while the other half did so for more than 30 minutes. The total time among all FCPS users logged into Tutor.com during SY 2021-22 (3,760 hours) translates into an hourly tutoring cost of \$130 per hour. Furthermore, while the amount of time individual students or families were logged into Tutor.com ranged from 1 to 2,699 minutes, analyses indicate that almost three-quarters of student users (72 percent) used it for less than one hour, an amount of time that is unlikely to yield tangible benefits to student achievement, particularly for those with greater academic need. However, the platform became available in April 2022, late in the school year, and may have been underutilized because students and families already had set patterns for academic support. Tutor.com usage in SY 2022-23 is expected to be significantly greater than was observed in the last quarter of SY 2021-22.

Key Finding: *Asian students and AAP students were disproportionately overrepresented in participation data.*

ORSI also explored the relationship between student characteristics and Tutor.com usage and whether there were disparities in access to the intervention resource. Separating usage data by student group, those who accessed Tutor.com included the following: 1.2% of ELs, 1.6% of economically disadvantaged students, 0.9% of students with disabilities, 2.6% of AAP students, 1.4% of White students, 2.4% of Black students, 1.1% of Hispanic students, 2.7% of Asian students, and 1.4% of multiracial students (Table 2).

Table 2: Tutor.com Participation Overall and by Student Group

	n	Percent Tutor.com Participants
Overall	3,189	1.6
Asian	948	2.7
Black	441	2.4
Hispanic	581	1.1
Two or More	151	1.4
White	947	1.4
Economically Disadvantaged	964	1.6
English Learner	449	1.2
Students with Disabilities	278	0.9
AAP	406	2.6

Tutor.com participation varied by student group (Table 3). Asian, Black, and AAP students had greater Tutor.com participation than other groups. Meanwhile, White students, Multiracial students, Hispanic students, English Learners, and students with disabilities had less participation than others, with Hispanic students, English Learners, and students with disabilities having the lowest participation. However, according to the proportionality index, all groups *except* Asian and AAP students were within what is typically considered normal representation because they were no greater nor less than a value of 0.5 from 1. There was no disproportionality in usage by economic disadvantage.

Table 3: Proportionality in Tutor.com Participation by Student Group

	n	% Tutor.com Participants	% in Membership Spring 2022	Proportionality Index
Asian	948	30.7	19.2	1.6
Black	441	14.3	9.9	1.4
Hispanic	581	18.8	27.9	0.7
Two or More	151	4.9	6.0	0.8
White	947	30.6	36.5	0.8
Economically Disadvantaged	964	31.2	32.2	1.0
English Learner	449	14.5	20.4	0.7
Students with Disabilities	278	9.0	16.1	0.6
AAP	406	13.1	8.3	1.6

Key Finding: *Students who were not identified as needing academic intervention accessed the resource to a greater extent than those who were identified.*

Another area of investigation was the relationship between intervention need based on academic performance and Tutor.com usage. Similar percentages of students accessed the resource when disaggregated by centrally-identified and school-identified¹ academic need in Fall 2021 and Spring 2022 (Table 4). A majority of students who accessed the resource were those who did not demonstrate academic need (i.e., a need for Tier 2 or Tier 3 academic interventions). In fact, there was no significant relationship between school-identified academic need and Tutor.com participation ($X^2=.011$, $p>.05$).

Table 4: Tutor.com Participation by Academic Need and Student Group

	n	% Tutor.com Participants	% Central ID Fall	% Central ID Spring	% School Documented
Overall	3,189	1.6	1.6	1.4	1.7
Asian	948	2.7	2.4	1.9	2.5
Black	441	2.4	2.4	2.0	2.9
Hispanic	581	1.1	1.1	1.1	1.2
Two or More	151	1.4	1.7	1.5	1.7
White	947	1.4	1.5	1.4	1.4
English Learner	449	1.2	1.2	1.2	1.2
Economically Disadvantaged	964	1.6	1.5	1.3	1.6
Students with Disabilities	278	0.9	1.1	1.1	1.2
AAP	406	2.6	2.6	2.7	2.0

Similar patterns were observed for fall-identified and spring-identified² students when disaggregating by subject tier (Table 5). That is, a majority of the students who accessed the resource were not centrally identified as requiring academic intervention. Analyses revealed significant relationships between Tutor.com participation and fall and spring tiers for reading and math (X^2 , $p<.05$). There were more Tutor.com participants in Tier 1 and less participants in Tiers 2 and 3 than expected. However, effects were near zero ($ES<0.1$). Overall, these results suggest Tutor.com is primarily fulfilling an enrichment function rather than an academic intervention function as the majority of participation is coming from students who do not need Tier 2 or Tier 3 academic intervention.

¹ Centrally-identified academic need was determined by the FCPS Central Office. School-identified academic need was determined by schools via the MTSS worksheet.

² Centrally-identified fall and spring academic need.

Table 5: Tutor.com Participation by Fall and Spring Central Identification

	Tier 1		Tier 2		Tier 3		Effect Size ³
	n	%	n	%	n	%	
Fall 2021 Math	1,917	63.9%	621	20.7%	460	15.3%	.01
Fall 2021 Reading	2,203	73.5%	523	17.4%	272	9.1%	.01
Spring 2022 Math	2,396	79.8%	431	14.4%	174	5.8%	.02
Spring 2022 Reading	2,603	85%	339	11.1%	121	4.0%	.03

Further analyses revealed significant relationships between student usage data, academic need, tutor perceptions of students' knowledge, and student perceptions of their experience with the resource ($p < .05$). These relationships are presented below as suggestive patterns within the data for further investigation and should not be taken to imply causal relationships.

Key Finding: *There was a relation between students' academic need and tutor perceptions of student knowledge.*

Analyses were conducted to understand how tutors' perceptions of student knowledge aligned with their identified need for academic intervention. Analyses revealed student academic need in reading and math was weakly associated with lower tutor ratings of students' prerequisite knowledge and achieved understanding as well as tutors' content mastery flags indicating students did not demonstrate mastery of tutoring session content ($r = 0.1, 0.2$). Hierarchical linear regressions revealed academic need in reading during the spring and fall was significantly negatively associated with average tutor ratings of achieved understanding after controlling for math academic need. When including both math and reading academic need in models, students' reading need displayed a stronger link to lower tutor ratings of achieved understanding compared to math need in the fall. However, this was not the case for spring. The associations between spring reading need and spring math need with lower tutor ratings of achieved understanding were both strong. For prerequisite knowledge, greater reading and math academic need in spring and fall was associated with lower tutor ratings of prerequisite knowledge, which is unsurprising as prerequisite knowledge may be impacted by more distant time points. Less prerequisite knowledge was strongly associated with less achieved understanding in sessions ($r = 0.9$) and both domains were weakly associated with a lack of mastery of session content ($r = -0.1$). Overall, these results suggest the academic need students displayed in the regular school day throughout the entire year also appeared during tutoring.

When viewing relationships between student groups (AAP, EL, economic disadvantage, students with disabilities, racial-ethnic identities) and tutor ratings through hierarchical linear regressions (Table 5), it was observed that English learners and students with disabilities had significantly lower average tutor ratings of achieved understanding and prerequisite knowledge while Asian students had significantly higher average tutor ratings in these areas ($p < .05$, other student group relationships were nonsignificant).

Key Finding: *Although participation was limited in scope and usage, the majority of students would recommend the tutor based on their experience.*

ORSI sought to understand student perceptions of their experience with Tutor.com as an academic resource and whether their perceptions varied by their identified need for academic intervention. The

³ The National Center for Special Education Research (NCSE) suggests that when it comes to interpreting effect sizes, Cohen's (1988) traditional categories of small (0.2), medium (0.5), and large (0.8) are not always appropriate for research on education, particularly education intervention studies. Researchers from the National Survey of Student Engagement (NSSE) at Indiana University Bloomington analyzed effect sizes in the context of empirical data and found that few educational results fit within Cohen's traditional cutoff points. Instead, they proposed alternative cutoffs of 0.1 (small effect), 0.3 (medium effect), and 0.5 (large effect). These suggestions are aligned with findings from NCSE regarding the average effect sizes among education research studies, allowing for a more meaningful interpretation of results. Thus, this report uses these later cut-offs to describe the magnitude of differences or effects. Effect sizes are only provided when statistical significance testing indicates $p < .05$.

majority of students in both Tier 1 (approximately 95%) and Tier 2 and 3 (approximately 90%) recommended tutors (Table 6). Further, similar proportions of Tier 1 and Tier 2 and 3 students gave sessions high average ratings range from 4 to 5. In fact, a slightly greater proportion of Tier 2 and 3 students gave sessions the highest average rating of 5 than Tier 1 students. Overall, the majority in each group gave high average ratings and ANOVAs revealed no significant differences between groups on session ratings ($p>.05$). Thus, it is evident that students across tiers perceive benefit from the resource.

Table 6: Tutor Recommendations and Student Ratings by Spring Identification

(% within tier)	Tier 1		Tier 2 and Tier 3	
	n	%	n	%
Did not recommend tutor in Spring 2022	76	5.3%	36	10.1%
Average Ratings of 4 to 5 in Spring 2022	1,266	89.7%	302	87.5%
Average Rating of 5 in Spring 2022	739	52.3%	192	55.7%

(Note: Recommendations refer to a flag indicating whether students would recommend their tutor to a friend after their recent session (yes/no))

However, results also revealed a slight pattern of difference in session responses by academic need. To some extent, Tier 1 students recommended their tutors when their tutors highlighted needed improvement for content mastery ($T_b = 0.2$), but this was not observed for Tier 2 and 3 students. On the other hand, to some extent, Tier 2 and 3 students recommended their tutors when their tutors rating them highly ($T_b = 0.1$), which was not the case for Tier 1 students. Tier 1 students also engaged more with the resource to some extent when tutors indicated they had not yet achieved understanding ($T_b = -0.1$). Considered together, these results suggest Tier 1 students had more positive responses to correction and were more motivated to improve in response to feedback compared to Tier 2 and 3 students. Further analysis revealed no significant relationship between academic need and student ratings after accounting for differences in student characteristics (AAP, SPED, EL, economic disadvantage, racial-ethnic identity).

Conclusions

- The implementation of Tutor.com services late in SY 2021-22, after school-based intervention practices and student/family habits had been established, likely contributed to the limited usage observed.
- Greater Tier 1 student participation suggests participating students may have approached the Tutor.com resource more as a general support resource than an intervention resource.
- Unbalanced participation in the resource by student academic risk and student group raise questions about equity in access to the resource.
- Students across tiers perceive benefit from the Tutor.com resource.

The relatively low proportions of identified students accessing Tutor.com across the division coupled with the fact that the majority of Tutor.com participants were not identified students suggest the resource was accessed as a general support rather than an intervention function. The fact that certain student populations with lower rates of identification accessed the resource in greater proportions than others (AAP, Asian students) also suggests this occurred to some extent. Greater participation in the resource from students with less academic risk and student groups who had greater academic need in SY 2021-22 raise questions about whether there is equitable access to the tool or other issues are impacting participation. While the resource is intended as a universal formative support service, this does not preclude students in need of Tier 2 or 3 intervention support from participating.

Greater proportions of Tier 2 and 3 students did not recommend tutors compared to Tier 1 students. However, there were no significant differences in student session ratings by spring or fall academic need and the majority of students across tiers gave high session ratings. These results in conjunction with the correlational results sketch out an initial picture. Results suggest that students across tiers derive benefit from the Tutor.com resource. However, the extent and quality of this benefit to in-school achievement

remains unclear. Results also suggest Tier 2 and 3 students may respond differently to tutor feedback and may have a different attitude or positionality toward correction and improvement. For example, Tier 2 and 3 students, or students with achievement risk, may be more easily discouraged by correction or gaps in prerequisite knowledge and subsequently unmotivated to engage with supports compared to those with less academic risk (Tier 1 students).

It is important to note that results are limited by disproportionate participation in the resource by student demographic and program groups, as well as tier groups, and limited participation in the resource within the division (just approximately 3,000 students participated in the latter quarter of the year). Available data also do not enable analysis of the resource's impact on (a) academic progress over time or (b) in-school academic progress. In order to better understand the impact of Tutor.com on in-school student achievement, it will be important to collect resource participation data and closely link those data to identified academic need as well as in-school academic outcomes throughout SY 2022-23.

Recommendations to the Superintendent

Based on the conclusions in this report, ORSI offers the following recommendations to the Superintendent.

- Increase communication regarding use of Tutor.com as an intervention resource for students with greater academic need.
- Continue to monitor usage of the Tutor.com resource during SY 2022-23.
- Monitor equity of access to the resource by student academic risk and student group.
- Explore differences in responses to academic intervention by academic risk group.

In light of limited use of the resource by students overall and for academic intervention during the last quarter of the school year, FCPS will want to monitor the usage and equity of access to Tutor.com by students and families carefully to ensure the resource is providing useful support for academics, especially given the expected full year cost of \$2.82 million (188,000 FCPS students at a cost of \$15 per license) over each of the next two years. Current limited use of the resource for intervention may be curtailed through increased marketing of Tutor.com to students with greater academic need. Further investigation with greater, more diverse participation over a longer time period is necessary to fully understand the resource's impact. Given results showing differences in feedback response by student academic need, embedding growth mindset in further study of the resource may provide useful information about not just the resource but also how students of varied need respond to supports. Such information could be used to provide more effective academic interventions for students. It is also important to continue collecting data on resource usage and access to better understand lower participation rates among students with identified academic need.