



NORTH CAROLINA
State Board of Education
Department of Public Instruction

Report to the North Carolina General Assembly

Plasma Games Pilot Competitive Grant Program

[SL 2021-25, sec. 3.5\(a\)\(25\)](#)

Date Due: May 18, 2023
DPI Chronological Schedule, 2022-2023

STATE BOARD OF EDUCATION

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NC DEPARTMENT OF PUBLIC INSTRUCTION

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JOINT LEGISLATIVE EDUCATION OVERSIGHT COMMITTEE REPORT REQUIREMENTS

The purpose of the Plasma Games Pilot Competitive Grant Program is to promote access to innovative digital and personalized learning solutions for high school students that bridge the gap between chemistry and physical science classes and career and technical education (CTE) career pathways. PSUs participating in the pilot must incorporate the software program developed by Plasma Games, Inc., in select STEM classes, and CTE programs, to encourage student interest and workforce development. A local school administrative unit participating in the pilot shall provide the Department with a plan for the placement of the STEM-focused educational technology developed by Plasma Games, Inc., in its schools and may include a plan from the pilot program established pursuant to Section 4.2D of S.L. 2020-4, as enacted by Section 1.1(e) of S.L. 2020-80, if the unit participated in that pilot.

A qualifying school is eligible as follows:

- Any public school unit is eligible to apply to the Department of Public Instruction for a grant to develop or continue a pilot Program with Plasma Games.

Funding:

Session law 2021-180 provides \$2,500,000 to establish the Plasma Games Pilot. Grant applicants will submit a proposed budget that is aligned with all budget requirements listed in the application. Applicants should be mindful of their capacity to spend all requested funds in the time period defined by the grant. All funding disbursements and reporting will be managed by CCIP.

Funds shall be used for the following purposes:

1. Plasma Games' licensing fees and related operating costs
2. Professional development and training for teachers related to the use of Plasma Games' software
3. Implementation costs of the pilot

The proposed budget must clearly align with program activities, must be reasonable and necessary, and must provide a breakdown of costs by category. The district, charter, or lab must verify no supplanting occurs. Requested funds must be submitted, by category, in the 'Proposed Budget' section of the CCIP application. An applicant awarded the Plasma Games Pilot funds for the 2021-2023 funding period that fails to demonstrate compliance may be subject to funds being terminated.

Reporting no later than June 1 of each year of the 2021-2023 fiscal biennium the Department shall report the following information to the Joint Legislative Education Oversight Committee, the Senate Appropriations Committee on Education/Higher Education, the House Appropriations Committee on Education, and the Fiscal Research Division:

- Number and amounts of grants awarded.
- Identities of the public school units receiving grants.
- Identities of public school units that applied for grants but did not receive one.
- The extent to which students participating in the Plasma Games pilot experienced measurable improvement in academic performance, if any.

NORTH CAROLINA DEPARTMENT OF PUBLIC INSTRUCTION(NCDPI) IMPLEMENTATION

This report is based on the most current activity and processes for the Plasma Games Pilot Competitive Grant Program.

The allotment policy was approved by the North Carolina State Board of Education on February 3, 2022. This action permits the Department to distribute allotted funds (\$2.5 million) to the PSUs upon approval of applications. The grant application opened in the Comprehensive Continuous Improvement Plan (CCIP) on May 1, 2022 with an initial closing deadline of July 1, 2023. During the initial application window, multiple grant applications were received with templated or generic responses. These included references to use of the Plasma Games platform outside of the high school courses specifically listed in SL 2021-25, sec. 3.5(a)(25) as well as a planned reliance on the vendor to conduct the grant evaluation. In order to provide PSUs additional time to finalize and revise/re-submit grant applications to align with legislation, the deadline was extended to 5:00 PM EDT on July 14, 2022.

The allotment application was open to all North Carolina Public School Units that met the qualifications as outlined in the legislation. The application collected data from the PSUs that meet the criteria as specified by the legislation including low performing school status, innovative school district status, at-risk status, and actual costs associated with implementation. The Office of Academic Standards, along with the Federal Programs Monitoring and Support division, worked collaboratively to publicize this opportunity through a variety of listservs, NCDPI Communications, and through the NCDPI webpage.

NCDPI received 22 applications from 21 LEAs and 1 charter school, with a total request of \$1,788,900.00. Each application was reviewed based on the criteria described in [SL 2021-25, sec. 3.5\(a\)\(25\)](#) page 78. Awards were approved by the SBE on August 4, 2022 and funds were distributed to districts immediately thereafter with grant award notifications sent on August 6, 2022. The table below lists each application received with the name of the requesting PSU, the requested amount and whether the PSU was awarded a grant.

Prior to [SL 2021-25, sec. 3.5\(a\)\(25\)](#), The North Carolina Department of Commerce Office of Science, Technology & Innovation (OSTI) facilitated a Plasma Games Pilot Program during the 2020-2021 school year. The [Fiscal Year 2021 Report on the Implementation, Expenditures, Outcomes and Recommendations for the Plasma Games Pilot Program](#) presented to the Joint Legislative Education Oversight Committee in June, 2021 listed 24 PSUs as having applied to participate, with 20 PSUs awarded funds. 5 of the PSUs who were awarded funds applied to participate in this grant opportunity, and are noted in bold. None of the 4 PSUs who were not awarded funds through the OSTI pilot program applied.

PSU Name	Total Budget Requested	Anticipated number of participating students	Grant Awarded
Beaufort County Schools	\$60,000.00	1,000	Yes
Burke County Schools	\$51,000.00	850	Yes
Columbus County Schools	\$30,000.00	500	Yes
Dare County Schools	\$29,880.00	498	Yes
Edgecombe County Public Schools	\$27,000.00	450	Yes
Elizabeth City-Pasquotank Public Schools	\$28,920.00	482	Yes

Franklin County Schools	\$43,500.00	725	Yes
Gaston County Schools	\$152,280.00	2,548	Yes
Harnett County Schools*	\$48,000.00	800	Yes
Haywood County Schools*	\$90,240.00	1,504	Yes
Henderson Collegiate	\$24,000.00	400	Yes
Hyde County Schools	\$9,000.00	150	Yes
Pitt County Schools*	\$55,800.00	930	Yes
Public Schools of Robeson County*	\$126,000.00	2,100	Yes
Sampson County Schools	\$45,000.00	750	Yes
Scotland County Schools	\$10,800.00	180	Yes
Surry County Schools	\$31,800.00	530	Yes
Tyrrell County Schools	\$3,000.00	50	Yes
Wake County Schools*	\$792,000.00	13,200	Yes
Watauga County Schools	\$30,000.00	500	Yes
Wilson County Schools	\$74,280.00	1,238	Yes
Yadkin County Schools	\$26,400.00	440	Yes
TOTAL	\$1,788,900.00	29,825	

*PSUs that participated in the Commerce Department Plasma Games pilot in 2020-2021 and the NCDPI administered Plasma Games grant.

NCDPI has implemented a biannual survey distributed to all awardees requesting updates on the status of the grant, expenditures, number of staff who have received training, number of students who have accessed the program, and progress toward meeting their stated goals. Per [SL 2021-25, sec. 3.5\(a\)\(25\)](#), all applicants were required to describe and monitor a minimum of three goals which must include measuring the grant's impact on remediating learning loss resulting from the COVID-19 pandemic.

The first round of survey data collection occurred from February 17 through March 31, 2023. Following the collection of written responses to the survey questions, NCDPI held individual phone calls with seven PSUs to further clarify answers and gain a better understanding of the implementation of the grant. Based on reporting from grant awardees, all awarded funds were spent as of March 31, 2023. All funds were used to purchase software licenses at the rate of \$60 per license.

The chart below details the number of licenses PSUs purchased, the number of students who have utilized the program this year, and the number of licenses purchased but have not been used as of March 31, 2023.

PSU Name	Number of student licenses purchased	Number of students participating as of March 31, 2023	Number/percent of licenses purchased but NOT in use as of March 31, 2023
Beaufort County Schools	1,000	182	818 (82%)
Burke County Schools	850	282	568 (67%)
Columbus County Schools	500	18	482 (96%)
Dare County Schools	498	181	317 (64%)
Edgecombe County Public Schools	450	206	244 (54%)
Elizabeth City-Pasquotank Public Schools	482	22	460 (95%)
Franklin County Schools	725	356	369(51%)
Gaston County Schools	2,548	621	1,927 (76%)
Harnett County Schools*	800	288	512 (64%)
Haywood County Schools*	1,504	340	1,164 (77%)
Henderson Collegiate	400	105	295 (74%)
Hyde County Schools	150	34	116 (77%)
Pitt County Schools*	930	492	439 (47%)
Public Schools of Robeson County*	2,100	1032	1068 (51%)
Sampson County Schools	750	145	605 (81%)
Scotland County Schools	180	91	89 (49%)
Surry County Schools	530	337	193 (36%)
Tyrrell County Schools	50	20	30 (60%)
Wake County Schools*	13,200	1086	12,114 (92%)
Watauga County Schools	500	138	362 (72%)
Wilson County Schools	1,238	43	1195 (97%)
Yadkin County Schools	440	161	279 (63%)
TOTAL	29,825	6,180	23,645 (79%)

*PSUs that participated in the Commerce Department Plasma Games pilot in 2020-2021 and the NCDPI administered Plasma Games grant.

PSUs originally planned for a total of 29,825 students to participate in the Plasma Games platform. As of March 31st, 2023, there were 6,180 students from 80 high schools who have or are currently participating in the Plasma Games program.

PSUs have indicated that a majority of the students listed began using the program in second semester classes. As a result, teachers and students are still participating and utilizing the Plasma Games platform throughout the second semester of the 2022-2023 school year. PSUs indicated their intent to use a combination of student and teacher survey data to gauge program interest and to measure any changes in student interest in STEM careers following use of the platform. PSUs are also using formative assessment results and final grades to determine success toward combating learning loss.

Due to the low number of students who participated in Plasma Games, data on student performance outcomes, student interest in STEM or CTE related careers, and teacher feedback is limited. Existing narrative feedback from PSU obtained indicates mixed results with some PSUs reporting strong teacher and staff interest and positive student outcomes, with others reporting little interest or benefits.

PSUs indicated 238 staff are participating in the pilot grant program with 235 staff members having received either in-person or virtual training provided by Plasma Games. PSUs who were able to provide teacher feedback reported teachers are using the platform in their classrooms as well as for assignments outside of class time. No PSUs reported needing additional educational technology in order to implement the program. Feedback from teachers was positive in regards to the instructional materials, lessons, and other resources available within the platform.

The data collection process revealed additional points of interest regarding PSU feedback and implementation of the Plasma Games Grant.

- All PSUs have spent their allotted grant funds. Based on current student use as of March 31, 2023:
 - \$370,800 of the allotted funds have been or are being actively utilized.
 - \$1.418 million has been spent on student licenses that have not been utilized.
 - Plasma Games contracts were written and agreed upon at the local level directly between PSUs and Plasma Games. NCDPI staff did not have access to each applicant's contracts.
 - PSUs were advised to check with Plasma games on the status of licenses purchased but not used during the 2022-2023 school year and if those licenses would still be accessible during the 2023-2024 school year.
 - Individual PSUs may have to pay back to the Federal government any funds spent but not utilized.

- The State Board of Education approved the grant awards on August 4th, 2023 and grant notification letters were sent August 6th. However; some grantees reported that due to master schedules already in place, professional development plans having been finalized, or timing of local Boards of Education approving the larger purchases, they were not able to take full advantage of the program during the first semester.
 - PSUs further reported that staff turnover and vacancies contributed to fewer first semester courses being able to implement the grant than were originally planned.

- During the data collection process, multiple PSUs reported receiving information from Plasma Games providing suggested answers to questions required in the NCDPI grant survey. This included:
 - Suggested responses to required updates on each PSU's progress toward their individual grant goals. The suggested responses listed the benefits of Plasma Games without providing related data to the PSU's specific goals.
 - Offers for district leaders to be entered into a drawing for a cruise if 85% of participating students progressed to a particular point in the program.
 - Offers to teachers to be entered into a drawing for a cruise if 85% of participating students progressed to a particular point in the program.
 - Offers for students who play through at least level 6 and complete the post surveys having a chance to win \$1,000 scholarships and STEM internships.
 - At least one PSU has shared they discovered teachers being listed in the Plasma Games program who are not using the program, who were not asked to be listed, or no longer work at the PSU.

- Initial conversations between NCDPI staff and Plasma Games included the importance of school and district leaders being able to track usage and pull reports regarding student outcomes. PSU feedback has indicated that district leaders have been unable or are having difficulty independently pulling data and are reliant on Plasma Games to share specific information regarding student and teacher survey data.
 - Plasma Games has communicated to PSUs that access to the results (both pre and post surveys) would be provided once a certain number of surveys were completed. This would mean PSUs would not have independent access to data generated by their own staff or students.

Additional data specific to the required goals will be collected from participating PSUs following the conclusion of the 2022-2023 school year and end of year assessment data is finalized.