

Departmental Analysis

Science

1. How are the department's curriculum and instructional strategies aligned with the school's Desired Results for Student Learning?

A. Communication: Students use the written word to express themselves frequently. Students do presentations on several topics throughout their courses. Frequently, they work in partners or small groups. Additionally, students communicate through visual means such as posters and drawings, as well as less common means such as acting, games, and other methods.

B. Critical thinking: Students must apply what they learn in a variety of activities. Frequent use of analogies, challenging questions, and logic are expected. Applied labs are frequent, as well as extended activities such as the science fair.

C. Technology: Technology is applied through student use of labs, microscopes, calculators, and Internet resources. The school has also provided a smart board in one of the classrooms. Teachers use overhead projectors and PowerPoint presentations when appropriate. Students are allowed to turn in assignments electronically when possible.

2. How does each course offering align with the state's core curriculum that prescribes content and course-specific intended learning outcomes?

Our science classes are all designed directly from the Utah State Core Curriculum. By reverse-engineering the course from the standards and objectives, the classes are well aligned with the State.

For non-core courses which do not have a proscribed curriculum, the teachers have planned courses either using college curricula, or a combination of college and text-based organization

3. To what extent does the department utilize a variety of assessments to monitor student achievement and adjust instructional practices?

A wide variety of assessments are used throughout the science classes. Traditional assessments are used, such as quizzes, tests, and writing assignments, as well as science-specific projects and labs. We also use non-traditional assessments such as performances, art, and other means.

Our school has taken care to not just include summative assessments, but formative assessments as well. Homework checks, listening for understanding, monitoring the students are all regular occurrences. Some of the formal assessments are also turned into formative assessments with chances for re-learning the topics.

4. How does the department collaborate with other departments to create integrated, relevant, and authentic learning opportunities for students?

One of the largest projects we do is the science fair. Students must carry a project through to completion, including background research, experimentation, understanding real results, and presenting the information in a cogent manner. Our curriculum ties heavily in with

mathematics, and students are expected to use proper English skills. We work closely with the Special Education department to ensure the activities can be effective for all.

We also have taken our students to space camp, allowing them to pilot missions. We seek for speakers and opportunities to share with the students. We also communicate regularly with the other teachers in secondary education to be aware of what they are teaching, and hope to include their lessons within our science classes.

5. To what extent do department members utilize inclusionary teaching strategies to meet the needs of ALL students, (ESL, Special Education, Gifted, etc.)

Our school has smaller class sizes than the surrounding districts, allowing for better knowledge of the students. This helps us specialize for student needs. We are closely tied with our Special Education department, and have multiple ways for students to meet the requirements of the class. This allows us to know our student needs well.

Often, our students have choices in either how to meet assignment goals, or occasionally which things to study. This gives students a choice of interest-specific materials. Teachers can then help the student with specific interests or goals.

6. To what degree are the department's policies, operational procedures, allocation, and use of resources aligned with the educational agenda of the school?

Our department works closely with the school plan and administration to meet the school goals. We also plan well with other colleagues and respect the input of parents and the school board.

7. How does the department collaborate and engage in ongoing professional development growth for the purpose of improving student performance?

Our school provides professional development opportunities such as training on collaborative communities (PLC). We have guest presenters who provide a variety of examples on improving teaching. Our school and department engages in networking between the charter schools. We collaborate with those schools in science-fair planning as well. Our faculty engages in ongoing education as well.

8. How do students have access to additional support beyond the classroom?

Students have access to updated grades through the SIS (Student Information System) program from the state. Our faculty are encouraged to keep the grades updated a minimum of weekly. Students and parents are given faculty email and are encouraged to communicate. One of our teachers has a website where assignments may be made available. Teachers are available before and after school. Another teacher makes items available through her UEN account. Students are also encouraged to do work at home as 97% of students have Internet access.

9. How do students have access and utilize technology as a regular part of the instructional program?

Our school has a wireless Internet connection, and this is used. Many students take online courses, especially those in their final years of high school. We have Ed-Net access, including

several science classes. Students have use of the smart board when available, as well as small electronics, such as calculators, stopwatches, and other devices.

10. How is the department collectively addressing the school's current improvement goals?

Our school has many goals to help students. We have been emphasizing dress code, and enforce that and the tardy policy. We evaluate our role in keeping goals, and work for high standards. We have also been actively teaching and enforcing changes in policies.

Areas of Strength:

We believe that we cater to our student's needs well. We know our students and are willing to work with them to complete learning. We have a strong relationship with the parents of our students too, and they feel at ease stopping by for questions. Our teachers are very well versed in their subjects and have a good grasp of the curriculum. We correlate well, as shown with numerous after-school meetings.

We are both focused on student success, and have spent many hours outside of required time working to better our instruction, with highlight on academic success. As shown by both varied assessments and the carpet stains, we are also adept at hands-on science.

Recommendations for Growth:

Our use of technology could improve. Some of this is limited because of the few computers we have, but our use of resources could be better.

Both of us have different issues with organization. Each has organizational issues, which is shown with either disorganized room structure or a slightly scattered lesson plan. Both teachers acknowledge that this could be an area for growth, with different and specific recommendations.