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Knowledge Work: Designing Work for Students

There is no doubt that we have experienced an information explosion in recent years. Access to print, broadcast, and web-based information lurks at every turn. As adult consumers of information, we can easily be overwhelmed and seek ways to insulate ourselves from the abundance.

Our students, however, need to be prepared to live in an information-rich society. This is their world, their future. Their skill in locating needed information, determining which information to trust, and what to do with it once gotten will make the difference between a contributing member of society and one who is not.

As we prepare our students to live in their world, we look to educational approaches that help us accomplish this goal. One such approach is designing knowledge work.

Knowledge work, rather than a specific set of steps or model of pedagogy, is a conceptual approach to education. It entails providing students with authentic tasks; tasks from the world usually experienced by those outside of school; tasks that engage them in thinking and discussion, constructing meaning and questioning.

Definition

“The work of people in an information-based society is best characterized as knowledge work, by which is meant employing ideas, concepts, symbols, and abstractions to solve problems, produce products, deliver services, or otherwise provide some useful result.” This definition was put forth by Dr. Phillip Schlechty, President and CEO of the Center for Leadership in School Reform. It reinforces the concept that knowledge work is something that teachers do on a daily basis as they plan lessons and engage in professional dialogue with colleagues. Doctors do it when they create a diagnosis and treatment plan from symptoms and diagnostic tests. Lawyers do it as they prepare contracts and defend the rights of individuals. Those in business do it as they fulfill their daily obligations and meet the needs of customers.

The following pages are meant to be a resource for teachers who strive to design knowledge work for their students. There is no right or wrong way to design knowledge work. The teacher needs to call on all that is known about instructional methodology, available resources, the students as individuals and as a collective, human growth and development, and what is possible within the context of individual schools and classrooms. If the work designed for students creates the intended product (learning) and engages the students’ attention and interests, then it can be considered knowledge work.

Indications that students are involved in knowledge work

Teachers strive to involve students in meaningful work that causes them to learn what is required by the curriculum. When students are so involved, excitement permeates the environment. The air becomes electrified with the hum of constructive discussion and the challenge of questions. Or a thoughtful drone fills the air as students grapple with making sense of information.

Meaningful work causes students to engage and persist, even when difficulties arise. Working through to deep learning creates a satisfaction in the work done.

When students are **engaged in the work** which leads to deep learning, they:

- know what they are to be doing
- initiate interaction with others, students and adults
- display verbal and nonverbal behaviors of excitement and understanding
- seek additional resources
- express their engagement when asked

When students **persist with the work**, they:

- remain on task until the work is done
- seek additional resources
- make corrections on their own
- seek feedback from others, students and adults
- go beyond a given task
- volunteer for new tasks
- retry a voluntary task
- test the learning in other situations

When students **feel satisfaction in the products** of the work, they:

- display enthusiasm or excitement
- express feelings of accomplishment and pride
- indicate seeking a personal relevance to the task
- share what they have learned with others

Designing Quality Work A Planning Wheel

Sample Strategies for Designing with the Qualities of Knowledge Work in Mind



CLSR/Newport News Public Schools, 1996

Knowledge Work: Designing in Quality

Design Quality:
Clearly Articulated and
Compelling Standards

Indicators

The work provides:

An understanding of each of the component parts and their relationship to the work as a whole.

A clear understanding of the techniques involved in its completion.

Mileposts toward its completion.

Timelines that suggest an appropriate pace toward completion.

Clearly established expectations for performance.

Distinguishing levels of performance.

Sufficient importance and relevance to ensure engagement.

Questions

What can students do to judge their progress on the parts of the work?

What can students do to judge their progress on the whole work?

How can the pacing of the work reflect student abilities and developmental needs?

What examples, models, prototypes, or rubrics of the finished work can be provided to help students understand the performance standard?

How can students be persuaded that it is important and possible for them to produce a high quality final product?

Design Quality:
Product Focus

Indicators

The work:

Achieves a goal established by curriculum objectives, SOLs, assessment measures, or community expectations.

Enables the student to produce something of significant personal meaning and value.

Enables the student to produce something of significant social/cultural meaning and value.

Integrates a variety of skills into an authentic context.

Questions

What goals and/or objectives are realized through this work?

What will doing the work demonstrate

- to the student?
- to other students?
- to adults in the school?
- to the community?

How does the work reflect the reason for doing it?

How does the product reflect its importance to the student?

How does the product reflect its social/cultural value?

**Design Quality:
Knowledge Content and Substance**

Indicators

The work:

Enables the student to enhance understanding of the concepts and processes that are significant to parents, community, and society at large.

Enables the student to make meaning out of information.

Enables the student to make connections with other knowledge.

Increases the competencies of the student to continue learning independently.

Increases the capacity of the student to be a productive and responsible citizen of the community and society at large.

Questions

Does the work provided reflect important concepts/processes as reflected by curricula, tests, SOL, etc.?

What can be included in the work to help students build their own meaning of the content?

How can this knowledge be connected to other content?

What can be included in the work to help students make these connections?

How can the work be structured so the student grows in

- knowledge,
- problem-solving ability,
- thinking ability,
- decision-making ability,
- communication skills,
- responsibility,
- and self-reliance?

**Design Quality:
Organization of Knowledge**

Indicators

The work:

Is structured in a manner that allows students to grasp the knowledge.

Relates to prior knowledge and understandings of the student.

Enables the student to enhance understanding of the concepts and processes that are significant to parents, community and society at large.

Enables the student to make meaning out of information.

Enables the student to make connections with other knowledge.

Increases the competencies of the student to continue learning independently.

Increases the capacity of the student to be a productive and responsible citizen of the community and society at large.

Questions

How does the structure and/or organization of the work help students grasp the concepts and/or processes?

How does the work draw from the real world of the student?

What can be included in the work to help students build their own meaning of the content?

How can this knowledge be connected to other content?

What can be included in the work to help students make these connections?

How can the work be structured so the student grows in

- knowledge,
- problem-solving ability,
- thinking ability,
- decision-making ability,
- communication skills,
- responsibility,
- and self-reliance?

Design Quality:
Authenticity

Indicators

The work provides:

Sufficient pertinence to ensure it is valued.

Tasks from which personal meaning is constructed.

Opportunities to use resources* in ways that are personally valued by the student and/or by those that the student views as significant.

Tasks that are personally valued by the student and/or those that the student views as significant.

**Resources are time, space, people, knowledge, and technology.*

Questions

What can the work include that would be of interest, importance or value to the student?

What tasks can be included in the work so that it connects to the student's real experiences?

What can the work include that would encourage the student to use meaningful resources?

How can the work be designed so the student feels that it is important to do?

What can be included in the work so the student feels the product is worth the effort to produce it?

Design Quality:
Choice

Indicators

The work provides:

Opportunities to make significant decisions about the use of resources* in the selection and construction of tasks.

Opportunities to make significant decisions about the use of resources* in the products generated.

**Resources are time, space, people, knowledge, and technology.*

Questions

How can students be provided with wide choices in

- topics of the work?
- strategies used to produce the work?
- time?
- order of steps used to produce the work?
- whether to work alone or with others?

How can students be provided with appropriate choices to produce the work?

How can students be provided with a range of choices for the products produced?

Design Quality:
Novelty

Indicators

The work:

Is viewed as fresh, unusual, original, new, and/or different.

Provides opportunities to use resources* in ways that the student views as fresh, unusual, original, new, and/or different.

**Resources are time, space, people, knowledge, and technology.*

Questions

What evidence is there that the expected products and/or performances of students are varied in

- kind?
- complexity?
- length of time anticipated for completion?

How can the given tasks be designed so students use new and different academic, thinking, and/or physical skills?

How can the given tasks be designed so students use new and different

- roles?
- media?
- approaches?
- presentation styles?
- ways of analyzing the information and the tasks?

How can the information or knowledge students are called upon to process, consider, and/or think about be presented to them in a variety of ways?

How can students present the information or knowledge in a variety of ways?

Design Quality:
Opportunities to Affiliate with Others

Indicators

The work provides:

Opportunities to interact with others in ways the student likes.

Interaction with individuals from varying roles in ways that produce positive results for the students.

Varying ways of interaction and communication that are valued by the student.

Positive results from the interaction and communication required for the completion of the task.

Questions

What can be designed into the work to allow students to interact with other students to accomplish the task?

What can be designed into the work to encourage students to interact with adults to accomplish the task?

What can be designed into the work to encourage students to work independently at times and collaboratively at other times?

Design Quality:
Protection from Adverse
Consequences for Initial Failures

Indicators

The work provides:

A nonthreatening means for determining progress.

Feedback about progress toward the completion of each part of the work.

Support through the flexible use of resources* to enable the student to complete each task successfully.

Opportunities to practice and revise for the purpose of improved demonstration on the learning.

An atmosphere that encourages creativity and risk taking.

**Resources are time, space, people, knowledge, and technology.*

Questions

How can others be invited to provide feedback on student products and/or performances without undermining the confidence of the student?

How can students be protected against loss of esteem or status among peers while learning?

How can feedback on progress be provided to allow students to make necessary adjustments on their efforts?

How can resources be effectively used to support student efforts?

How can opportunities to revise product be provided to students?

How can students be encouraged to extend themselves and their efforts in the work?

How can students be encouraged to reflect on their mistakes and to learn from them?

How can the majority of students produce high quality products and performances that meet the established standards?

Design Quality:
Affirmation of Performance

Indicators

The work provides:

Acknowledgment of performance in ways valued by the student.

Acknowledgment of performance by persons who are significant to the student.

Techniques for self-assessment of progress.

Encouragement as the student progresses toward the completion of each part and the work as a whole.

Results that are meaningful to the student.

Questions

How can the work be designed to provide students immediate feedback on
- their progress?
- their efforts?

How can student products/performances be displayed to others?

What can be done so that individuals other than the teacher affirm the worth and/or importance of student products/performances?

What can students do to make judgments on their own progress and results?

How can students continually be encouraged to work toward completion of the product/performance?

Designing Knowledge Work*

(*This form can also be used for observation purposes.)

Grade Level/Subject _____

Learning Objective(s) _____

SOL(s) being addressed _____

Clear, Compelling Standards	Product Focus	Authenticity
Novelty and Variety	Affiliation with Others	Affirmation of Performance
Choice	Protection for Adverse Consequences for Initial Failures	Knowledge: Substance Knowledge: Organization



Designing Knowledge Work

Design Quality:

Instructional Strategies:

Designing A Knowledge Work Unit

1. Choose a theme or concept to plan.
2. Identify the SOL or curriculum objectives that will be the focus of the unit.
3. Develop standards for the unit that align with the chosen objective.
4. Decide the length of time the unit is to last.
5. Decide what the final product of the unit will be.
6. Plan the learning needed to get to that final product:
 - Plan an initial engagement that will
 - ⇒ Hook the interest of the students
 - ⇒ Connect to prior learning
 - ⇒ Provide the purpose for the learning
 - Identify the skills and en-route learnings necessary to provide a successful outcome for the student.
 - Plan the activities that will lead the students to the final product and assessment. Identify the design qualities of knowledge work as they are included.
 - Plan a variety of instructional strategies and modalities to be incorporated in the unit (art, research, technology, graphic organizers, group work, etc.)
 - Identify the points where evaluation will occur along the way.
 - Determine the final product. The product should be as authentic as possible and synthesize all the learning that has taken place in the unit.
 - ⇒ Set the standards for the product.
 - ⇒ Plan the timetable for product completion.
 - ⇒ Create a rubric for evaluation.
 - Design the final assessment for the unit.

Adapted from a knowledge work unit design process developed by Paula Brown, SOL Excellence Team, Newport News Public Schools.