**Getting Started with Surface, Deep, and Transfer Learning**

Shifting into Teaching for Transfer

By Isaac Wells

Everyone in education seems to agree on the importance of teaching and learning for transfer, yet the systems we have in place were not built for it.

In the classroom, the focus is usually on surface-level learning during assessment and instruction. This often seems to work well within the course but falls short when students attempt to apply what they have learned to new or complex situations.

When we teach for transfer, we can make students aware of the relevance of what they are learning and ensure they understand and master the concepts and skills deeply enough to apply them beyond our class or course.

Well-planned units of study which incorporate goal setting, repeated attempts with revision, and other components of deliberate practice create the conditions for deep and transfer learning. Neural networks in the brain are more developed when students achieve deep and transfer learning, and this enables them to retrieve and use information more efficiently and effectively. (National Research Council, 2005)

A few relatively simple steps towards teaching for transfer can begin this shift. Three ideas to choose from are listed below.

Launch Units and Lessons with An Overarching Question or Goal

First, launch units and lessons with an overarching question or goal that sets learners' gaze on the horizon, connects to their learner and cultural identities, and can be used to connect individual lessons and tasks.

* Clarify connections between overarching questions goals and students’ assets through questioning and discussion. Inviting students to share their thinking builds trust and reduces the power imbalance between students and teachers.
* “What strengths are you bringing to this lesson/task?” “Tell me more about how your understanding of German society in WWII will help us understand the characters in the novels we are going to read.” “Why do you think your self-awareness of feeling different and left out will help you understand these characters?”
* “Why do you think our class will do well with this project?” “Can you explain your connection between the problems we solved in the last unit and your predictions about the new unit?”

Multiple Opportunities to Rehearse and Revise

Second, ensure students have multiple, culturally responsive opportunities to rehearse and revise their thinking through repeatable, authentic tasks spread over time. Balancing structure and student autonomy increases learner engagement. (Jang et al., 2010)

* Consider learners’ cultural identities and provide options for students to share their ideas and work in ways that are comfortable for them.
* Allow for student choice in when and how they engage by establishing multiple times, spaces, and partnerships that they can choose from and continue to make progress. The more comfortable learners are in their social engagement, the more deeply they can engage intellectually.
* Facilitate reflection on the dispositions students are using and developing. For instance, “How has the perseverance you developed as a dancer helped you keep working through this project?” or “How has reflecting on and discussing these characters developed your self-awareness?”

Design Tasks and Assessments with Transfer in Mind

Third, design tasks and assessments that require students to apply their learning in various culturally relevant situations.

* Connect to learners’ communities. Find ways to involve or pull from their community and ways to impact the community through students’ learning or the tasks themselves. Is there an opportunity to feature the work of young artists in the community? Can a unit on persuasive writing include interviews of local citizens and letter writing to policymakers?
* Consider criticality and guide students in thinking about how what they are studying, the discussions they are having, and the work they are doing enables them to critique systems and societies. Ask, “Based on your learning, what can we do to challenge harmful and oppressive systems?”

The table below provides examples of success criteria and tasks organized by surface, deep, and transfer learning pulled from chapter 8 of Amplify Learner Voice through Culturally Responsive and Sustaining Assessment. Use this tool as a guide as you plan assessment and instruction.

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|  | **Surface** | **Deep** | **Transfer** |
| Learning new skills, concepts, and strategies in a single context | Connecting, reorganizing, and synthesizing surface knowledge | Flexibly applying knowledge in new situations and contexts |
| **Sample Success Criteria** | * Define Earth’s systems.
* Recognize and represent proportional relationships.
* Describe instances of human impact on Earth’s systems.
 | * Explain cause-and-effect relationships between humans and Earth’s systems.
* Compare and contrast multiple perspectives on the role of human actions in changes in Earth’s systems.
* Provide and receive feedback on written work and make revisions for content and craft.
 | * Write arguments to support claims with clear evidence and reasons in content areas.
* Present and evaluate predictions about future cause-and-effect relationships based in evidence.
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| **Sample Tasks** | * Take notes on multiple sources (text, video, audio) related to human impact on Earth's systems.
* Write brief reports on specific examples of human impact on Earth’s systems.
 | * Evaluate claims and arguments regarding human impact on Earth’s systems.
* Compare and contrast multiple perspectives regarding human impact on the environment. Cite specific evidence from texts and other resources.
* Make predictions based on evidence. Work with a team to use what you have learned about human impacts on nature to create a model to predict changes in nature as human populations increase in a region you select.
 | * Share your predictions with a larger audience. Write an article or pamphlet, record an interview or debate, or find another way to influence opinions beyond your classroom.
* Present to a group. Use what you have learned to make general recommendations for whether or not scientists should have more access to and influence with policy makers.
* Analyze the impact of humans on Earth’s systems and how these changes impact different groups of people, especially historically marginalized communities.
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*The abbreviated definitions of surface, deep, and transfer learning were adapted from ideas in Teaching for transfer: A guide for Designing Learning with Real-World Application by Michael McDowell and Jay McTighe.*

Jang, H., Reeve, J., & Deci, E.L. (2010). Engaging students in learning activities: It is not autonomy support or structure but autonomy support and structure*. Journal of Educational Psychology*, *102*(3), 588–600. <http://dx.doi.org/10.1037/a0019682>

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