Task, Teaching and Learning: Improving the Quality of Education for Economically Disadvantaged Students

*by Lorin W. Anderson
and Ana Pešikan*

EDUCATIONAL PRACTICES SERIES–27

The International Academy of Education

The International Academy of Education (IAE) is a not-for-profit scientific association that promotes educational research, and its dissemination and implementation. Founded in 1986, the Academy is dedicated to strengthening the contributions of research, solving critical educational problems throughout the world, and providing better communication among policy-makers, researchers, and practitioners.

The seat of the Academy is at the Royal Academy of Science, Literature, and Arts in Brussels, Belgium, and its co-ordinating centre is at Curtin University of Technology in Perth, Australia.

The general aim of the IAE is to foster scholarly excellence in all fields of education. Towards this end, the Academy provides timely syntheses of research-based evidence of international importance. The Academy also provides critiques of research and of its evidentiary basis and its application to policy.

For more information, see the IAE's website at:
http://www.iaoed.org

Series Preface

The present booklet, entitled *Tasks, Teaching, and Learning: Improving the Quality of Education for Economically Disadvantaged Students*, has been prepared for inclusion in the Educational Practices Series, a publication series developed by the International Academy of Education (IAE). As part of its mission, the International Academy of Education provides timely syntheses of research on educational topics of international importance. The booklets are published and distributed by the International Bureau of Education (IBE), UNESCO. This is the twenty-seventh in a series of booklets on educational practices positively related to learning.

The International Academy of Education is grateful to Professors Lorin Anderson and Ana Pešikan for writing the present booklet. Lorin Anderson is Carolina Distinguished Professor Emeritus at the University of South Carolina. He is well known for his research in the areas of classroom assessment, curriculum studies and classroom effectiveness. He is the author of many books, monographs and journal articles, and has received awards for his teaching and his research. His most recognized work is *A Taxonomy of Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*, which was published in 2001. Professor Anderson served as the chairman of the Editorial Board of the *International Journal of Educational Research* and as the editor of the section on "Teaching and Teacher Education" for the *International Encyclopedia of Education, 2nd Edition*. Ana Pešikan is Professor and Head of the Psychology Department at the University of Belgrade, Serbia. She is well known for her research on active learning.

The officers of the International Academy of Education are aware that this booklet is based on research carried out primarily in economically advanced countries and that the recommendations of this booklet need to be assessed with reference to local conditions and adapted accordingly. In any educational setting, guidelines for practice require sensitive and sensible applications and continuing evaluation of their effectiveness.

Stella Vosniadou
Editor, Educational Practices Series
Strategic Professor, The Flinders University of South Australia
Emeritus Professor, National and Kapodistrian University of Athens

Previous titles in the 'Educational practices' series:

These titles can be downloaded from the websites of the IEA (http://www.iaoed.org) or of the IBE (http://www.ibe.unesco.org/publications.htm) or paper copies can be requested from: IBE, Publications Unit, P.O. Box 199, 1211 Geneva 20, Switzerland. Please note that several titles are now out of print, but can be downloaded from the IEA and IBE websites.

Table of Contents

Introduction

Students of all ages spend a good amount of their time in classrooms engaged in some type of academic work (e.g. worksheets, workbooks, scientific projects, essays, research papers). On average, students from elementary through high school spend approximately one-half of their classroom time working by themselves ("seatwork") or in groups ("group work"). This time estimate does not include work to be completed at home ("homework"). For college and university classrooms, this figure drops to one-third, with most in-class work done in groups.

Because most of this work is assigned by teachers, each piece of work is often referred to as an <u>assignment</u>. We prefer the term <u>task</u> because the concept of task gives purpose to the assigned work. That is, TASK = ASSIGNED WORK + PURPOSE. For students, tasks provide the answer to the often heard question, "<u>Why</u> am I doing this assignment?" Suppose, for example, students are given a diagram of the human muscular system and instructed to label each muscle. What is the purpose of this assignment? Is it to pass some external examination? Is it to prepare for an internship in an orthopedist's office? Or is it for some other purpose? Although there is only one assignment, there are multiple purposes (and hence, multiple tasks).

In addition to differences in <u>purpose</u>, tasks differ in their <u>settings</u>, <u>subject matters</u>, <u>scopes</u>, <u>forms</u>, and <u>complexity.</u> <u>Setting</u> refers to both the physical setting (e.g., classrooms, hallways, laboratories, homes, community centers, open fields) and the social setting (e.g., individuals, small groups, competitive, cooperative). The <u>subject matter</u> is the content or academic discipline in which the task is embedded (e.g., language arts, science, visual arts, trades and industries, multi-disciplinary). The <u>scope</u> refers to the length of time needed to complete it (e.g., thirty minutes, three weeks, one semester). <u>Form</u> is the way it is presented to students as well as the way in which students are to respond (e.g., a worksheet with ten pairs of words and pictures to be matched, an essay to be written comparing two different forms of government). Finally, <u>complexity</u> refers to how complicated the task is to understand and/or to complete. For example, procedural tasks (that is, tasks that can be completed by following a prescribed sequence of steps) are less complex than creative tasks (that is, tasks that require the person completing them to invent a way of performing or completing the task).

Every task can be analyzed in terms of these six dimensions: purpose, setting, subject matter, scope, form, and complexity. Suppose, for example, a problem set is given to students for the

<u>purpose</u> of seeing whether they can apply scientific knowledge to solve six practical problems. Each problem in the set can be considered a separate task. Students are expected to complete the six tasks working in groups of three seated around a table (<u>setting</u>). Each of the six tasks requires the application of scientific knowledge (<u>subject matter</u>) and is presented in an open-ended <u>form</u>. Because they are unfamiliar problems with no ready-made solutions, the <u>complexity</u> is reasonably high. Finally, students are told that they will have 45 minutes to complete the assignment (<u>scope</u>).

Because tasks are so prevalent at all school levels, they are often forgotten as a focus area in attempts to list the characteristics of effective teachers or "best teaching practices". In rather comprehensive lists prepared by researchers and educational practitioners, one rarely encounters the terms "work," "assignment," or "task." The purpose of this booklet, then, is to describe the central role that tasks play (or, perhaps more accurately, <u>should play</u>) in school learning, particularly in efforts to improve the quality of education for economically disadvantaged children and youth. In this booklet we offer a set of eight principles that, when properly applied, should enable teachers to (1) understand more fully the tasks they are using, (2) increase awareness of the reasons for using the tasks, and (3) design, select, and use tasks more effectively with economically disadvantaged children and youth.

Suggested Readings: Doyle & Carter, 1984; Hunt, 2009; MacGregor, 2007; National Survey of Student Engagement, 2013; Shernoff, Csikszentmihalyi, Schneider & Shernoff, 2003.

1. Engage with authentic, relevant, and meaningful content

When tasks are authentic, relevant, <u>and</u> meaningful, economically disadvantaged students are more likely to value what they are learning and make important connections between what they are learning, what they have learned, and how their learning is related to their lives outside school.

Research Findings

For a wide variety of reasons, economically disadvantaged children tend to be placed in classrooms (and sometimes entire schools) with other economically disadvantaged children. This placement has implications for the curricular demands placed on these students as well as the type and pace of instruction they receive. The curriculum tends to focus on rote memorization and algorithmic skills with few opportunities to think and reason. Teachers tend to rely on recitation and worksheets to deliver instruction (and, some would say, control students' behavior) and move along at a much slower pace. The prevalence of the *status quo* has led some researchers to question whether it is possible to provide high-quality instruction to low-status groups. We believe it is possible when tasks are chosen based on their <u>authenticity</u>, <u>relevance</u>, and <u>meaningfulness</u>. Before moving on, we need to make sure that the meaning of each of these three criteria is clearly understood.

<u>Authentic tasks</u> have value beyond the classroom – they connect what students are learning in school to the "outside world." In contrast, tasks are <u>relevant</u> to the extent that they are consistent with students' needs and/or interests. It is important to point out that a task may be authentic, but <u>not</u> relevant. This distinction is particularly important for economically disadvantaged students. Finally, tasks are <u>meaningful</u> to the extent that they enable students to make sense of their experiences. "Making sense" means that students are able to build connections between what they are learning and what they have previously learned. Because economically disadvantaged students often have limitations or gaps in their prior learning, it is often more difficult for them to "make sense" of what they are being taught. Figure 2-1 summarizes the relationships among authenticity, relevancy, and meaningfulness as these terms apply to tasks.
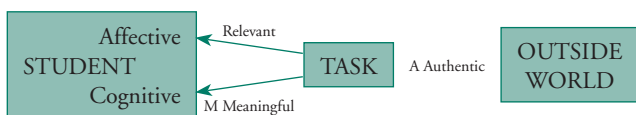
Figure 2-1. The relationship of tasks with authenticity, relevance, and meaningfulness.

Authenticity and relevance have consistently been associated with students' motivation (that is, a willingness to expend the effort needed to learn) and engagement in learning. Meaningfulness enables students to transfer their learning to new situations, rather than simply retain (and regurgitate) what they have been taught. When a task meets all three criteria, it increases the likelihood that students will (1) complete the task and (2) connect task completion with important learning outcomes.

Implications for Educators

1. Take time to get to know your students and, equally importantly, the homes and communities in which they live. Although most teachers are quite knowledgeable of the subject matters they teach, they are often less knowledgeable of their students' lives outside of school. This lack of knowledge is particularly acute when teachers and the students they teach come from very different cultural backgrounds. To acquire or improve their knowledge in this area, teachers can visit children's homes, take supervised walking tours of neighborhoods, and participate in "town hall" meetings attended by parents, family members, and community leaders.

2. When selecting or designing tasks, try to find a balance between authenticity and relevance. Authenticity comes from knowing how what is being taught is applicable in the "real world". With young children, for example, environmental print is all around them. Therefore, tasks that use street signs, billboards, food labels, and greeting cards to teach early reading skills such as word recognition and phonemic awareness are quite authentic. To ensure that these authentic tasks are relevant, teachers should take steps to ensure that the environmental print examples can be seen within the neighborhood.

3. Make every attempt to make tasks meaningful. As mentioned earlier, meaning requires that students make connections between what you are teaching and what your students already know. Notice that it is the students who must make the connection. When teachers attempt to make connections for students, they begin with what they are teaching. When working with economically-disadvantaged children, however, it is much better to begin with whom you are teaching. Rather than giving students

examples because they "fit" the topic being taught, begin by soliciting examples from the students and then "fitting" them to the topic as appropriate.

Suggested Readings: Harris & Marx, 2009; Mayer, 2001; Roberson, 2013.

2. Use learning tasks as a primary building block of the curriculum

When teaching economically disadvantaged students, learning tasks should take precedence over teacher-directed instruction; furthermore, assessment tasks should always precede practice tasks.

Research Findings

There are three primary purposes for assigning tasks to students. A <u>learning task</u> is intended to facilitate initial learning – to move students from ignorance toward knowledge or from ineptness toward proficiency. An <u>assessment task</u> is intended to determine whether or how well students learned what they were expected to learn. What knowledge did they acquire? What is their level of proficiency? Finally, a <u>practice task</u> is intended to facilitate retention (e.g., of concepts or facts), fluency (e.g., of reading or mathematical computations), or automaticity (e.g., of keyboarding or playing a musical instrument).

For low-achieving or "struggling" students, a group that quite often includes numerous economically disadvantaged students, the teaching they receive follows a fairly predictable sequence. Teachers <u>talk</u> to or with their students, after which students <u>work</u> alone or in groups on an assignment given by the teacher. This "talk-work" sequence can occur once during a class period or be repeated several times. The assumption underlying this sequence is that students learn by listening to and/or watching the teacher, <u>not</u> by engaging in a task alone or with others. Therefore, it is only after students have been <u>taught</u> that tasks are assigned to them. The purpose of the tasks, then, is either to <u>assess</u> whether students learned what they were taught or to give students opportunities to <u>practice</u> what they were taught.

Although the "talk-work" sequence is observed quite frequently in countries throughout the world, it is not found in all classrooms or in all countries. In Japanese mathematics classrooms, for example, teachers begin the lesson by presenting a <u>learning task</u> to their students. As a class, students discuss the task, attempting to solve the problem or answer the question embedded within it. The teacher assumes the role of guide and/or resource. In situations like this, either "work" precedes "talk" (that is, the sequence is "work-talk") or "work and talk" occur simultaneously rather than sequentially.

Implications for Educators

1. When teaching economically disadvantaged students, use learning tasks as a primary building block of the curriculum. Over the past quarter century it has become common knowledge that learning requires that students remain actively engaged in the learning process over a substantial period of time. To use a phrase common in the 1970s and early 1980s, students must spend a reasonable amount of "time-on-task" if they are to learn. A curriculum built around learning tasks has the potential to transform economically disadvantaged students from passive recipients of knowledge to active participants and learners.

2. Contrary to the old adage that practice makes <u>perfect</u>, practice makes <u>permanent</u>. Whatever is learned, whether correct or incorrect, remains with students when practiced. As a consequence, <u>practice tasks</u> should be assigned only after there is some evidence that students have learned what they will be practicing. The primary source of this evidence should be <u>assessment tasks</u>, not assumptions made by the teacher based on informal observations and impressions. The "assessment-practice" sequence is particularly important for economically disadvantaged students who are more likely to return to homes in which support for completing homework successfully is lacking.

3. Finally, integrate assessment tasks throughout the entire teaching/ learning process rather than assigning them at the end of some specified time period (e.g., a week) or the completion of a unit of instruction. Assessment serves different functions at different points in the teaching/learning process. At the beginning, assessment can provide you with important information about what students know and can do (and do not know and cannot do) before instruction begins. In the middle, assessment can give you information about how well things are going so that changes can be made, if necessary, to ensure overall learning success. In the end, assessment can provide you with the data you need to assign and justify the grades or marks on students' report cards.

Suggested Readings: Anderson, Ryan & Shapiro, 1989; Haberman, 1991; Jacobs & Morita, 2002; Logan, 1985; Murphy, 2003.

3. Become the 'guide on the side'

The proper implementation of task-based learning for economically disadvantaged students requires significant changes in the roles and responsibilities of teachers and students.

Research Findings

Consider a movie or a stage play. There are three principle roles: directors, actors, and audience members. In many if not most classrooms, teachers are actors, students are members of the audience, and supervisors or administrators are directors. In fact, several articles and at least one book have been written advocating teaching as a "performing art." To properly implement task-based learning, these roles must change. The teacher becomes the director and the students are the actors. There may be multiple audiences at different times (e.g., administrators, supervisors, or parents) or there may be no audience at all, just actors and the director (as would be true in dress rehearsals).

As directors, teachers must attend to the "big picture" – that is, the settings (physical, social, and emotional), the actions and interactions of the actors in those settings, and the interactions of the actors with the director. Borrowing from drama theory, the term used to describe this "big picture" is "scenario". Scenarios differ from traditional lesson plans in at least two respects. First, lesson plans typically focus on content, whereas scenarios focus on contextually-based, task-directed, content-embedded activities. Second and directly related to the first, lesson plans often emphasize what teachers should say and do to "deliver" instruction. Scenarios, on the other hand, focus on what students should say and do to complete the task and master the objectives. In this regard, it is interesting to note that the indicators found on virtually all teacher evaluation instruments in the United States focus on teachers, not students.

This shift in roles and responsibilities is consistent with the generally accepted theory that learning involves constructing knowledge (rather than merely reproducing it) by means of asymmetric social interactions with more competent partners. Furthermore, learning is not an individual, isolated, de-contextualized act; rather, learning is situated in particular contexts (historical, social, cultural, and environmental). Simply stated, academic learning quite often involves internalizing cognitive activities within social settings.

Implications for Educators

1. Design scenarios rather than prepare traditional lesson plans. Each scenario should (a) have a clear purpose, (b) enable students to become and remain actively engaged in learning, (c) assist students in achieving challenging learning goals and objectives, and (d) empower students to develop new forms of thought and ways of thinking. When classroom learning environments are conceptualized as scenarios, students become apprentices who see how knowledge is used in competent performance as they gain proficiency themselves.

2. Within these scenarios (and borrowing from Ted Sizer), assume the role of "guides on the side," rather than "sages on the stage." This is not to suggest that you never talk to or with your students. Rather, this is to suggest that when you do talk, what you say should be focused, clear, and fairly brief, just long enough to get the point across. The vast majority of classroom time should be monitoring students' work, listening to discussions (redirecting them as necessary), asking clarifying and probing questions, and serving as a learning resource when needed.

3. Because an emphasis on active learning is often associated with a great deal of classroom activity, it is easy to lose perspective. To maintain a proper perspective, you must achieve a balance between what students <u>do</u> and what students <u>learn</u>. It is important to remember that students should not learn activities, they should learn <u>from</u> activities. Students must be reminded of the purpose of activities (that is, the learning objectives). This can be accomplished by stopping them periodically and having them answer the question "What have you learned?". If students can recount what they have <u>done</u> in class, but cannot articulate what they have <u>learned</u>, the design and/or implementation of the scenarios should be modified.

Suggested Readings: Darling-Hammond, 2012; Glaser, 1991; Hyslop-Margison & Strobel, 2008; Pešikan, 2010; Sarason, 1999; Sizer, 1997.

4. Focus on learning strategies

Focusing on learning in addition to contents coverage is key to successfully implementing task-based learning for economically disadvantaged students.

Research Findings

Virtually all educational objectives can be written in a common format: subject-verb-object. The student (subject) will contrast (verb) poetry, drama, and prose (object). The student (subject) will apply (verb) a variety of properties to simple algebraic expressions (object). The object represents the content to be learned. The verb indicates how students are expected to process that content. When teachers focus exclusively on content, they leave the choice of process to the student. In the first example, if the teacher only talks about poetry, drama, and prose, some students may memorize definitions, others may decide that they prefer drama to poetry and prose, and still others may focus on the differences among them. If the assessment is aligned with the objective, it seems reasonable to expect that the last group will perform the best. In this case, students are not being penalized for failing to learn the content; rather, they are being penalized for choosing and using the wrong learning process.

When students learn, they must rely on two kinds of prior knowledge: content knowledge and knowledge about how to learn content. Economically disadvantaged students often lack requisite background knowledge. If they do possess the knowledge, it may be disorganized and/or cognitively inaccessible. In addition, economically disadvantaged students often show substantial deficits in their awareness of their cognitive and metacognitive strategies as well as those strategies that produce more effective learning. Cognitive strategies are inherent in the verbs included in the statements of objectives (e.g., contrast, apply). Metacognitive strategies, on the other hand, are more generic in that they apply to multiple objectives and, often, to multiple subject areas (e.g., elaboration, keyword mnemonics, imagery).

This shift from "transmitting content" to "providing strategies" mirrors the aforementioned shift from a focus on teachers teaching to an emphasis on students learning. Both of these shifts are made easier within the context of task-based learning. When students are given true learning tasks, they must – individually or collectively – determine how they intend to work on and complete the task. They must also retrieve prior knowledge that is necessary for or facilitative of task completion and mastery of the objectives.

Implications for Educators

1. When teaching economically disadvantaged students, work to achieve a <u>balance</u> between content and process. Performing an activity or using a strategy, but learning nothing by doing so, is unacceptable. You can achieve this balance by continually emphasizing the importance of <u>monitoring</u> and <u>evaluating.</u> Monitoring involves answering pairs of questions such as "Am I making progress?" (the task) and "What am I learning?" (the objective). Evaluating involves pairs of questions, such as "Have I accomplished the task on time and am I proud of my accomplishment?" and "Have I learned what I should have learned?". Within the context of metacognition, monitoring and evaluating are key components of self-regulation.

2. Help students understand that different strategies are more or less useful for different kinds of learning. Mnemonic and rehearsal strategies are intended to help students remember key facts or concepts. Strategies such as self-explanation and re-reading are most useful for facilitating understanding. Finally, strategies such as summarization, outlining, and highlighting text are intended to help students analyze and organize what they are attempting to learn. Matching strategies with intended learning outcomes, then, is another way of balancing content with process.

3. Teach general strategies to all students, while at the same time encouraging them to invent their own. There is, for example, a very useful four-step strategy for working on longer-term tasks: (a) organize/plan, (b) manage the work (e.g., ensuring that all resources are available, setting interim deadlines to ensure a proper pace), (c) monitor progress, making adjustments as necessary, and (d) evaluate the quality of the work. Within each of these fairly large steps, however, students can experiment with strategies that are unique to them as individuals or as members of a group. For example, what's the best way to get the information I (we) need? How should I (we) organize the work so I (we) meet the deadline?

4. Finally, go beyond the "correct answer" to explore how students arrived at their answers to questions or solutions to problems. What strategies did they use (if any)? Did they use the strategies properly? To find answers to these questions, you may ask students questions such as "How did you arrive at that answer or solution?" When attempting to balance content and process, both the correctness of the answers and arriving at the answers in appropriate and reasonable ways are important considerations.

Suggested Readings: Askell-Williams, Lawson & Skrzypiec, 2011; Donovan & Bransford, 2005; Dunlosky, 2013; Gaskins, 2005; Millar, 2004.

5. Be explicit about expectations

Teachers must ensure that economically disadvantaged students clearly understand the behavorial, academic, and social expectations of a task before they begin to work on it.

Research Findings

To properly implement this principle, direct and explicit instruction is advisable. There is increasing evidence that the quality of student work is much better when teachers provide extensive directions for the tasks than when less detailed directions are provided. Understanding the task entirely <u>before beginning work</u> enables students to "see" and think about the "whole," rather than focusing on the "parts." Suppose, for example, students are given a short story and asked to analyze it in terms of a set of literary elements (e.g., plot, setting, character, theme, mood, and tone). Are they expected to read the short story in class, at home, or both? Is it permissible to work with other students? Are they encouraged to do so? Should they focus on each literary element individually or on the relationships between and among them? What is the nature of the final product (e.g., a test, an essay)? What is the deadline? How will the final product be evaluated? If the final product is a test, how many items must a student answer correctly to get a particular grade or mark? If the final is an essay, what are the evaluation criteria and performance standards? Is a rubric available to clarify performance expectations? Answers to these and similar questions are necessary if students are to fully understand the teacher's expectations concerning all aspects of the task.

Why is this explicitness important for economically disadvantaged students? At least two reasons can be given. First, without answers to questions such as these, students are left to their own devices. When the expectations of students are inconsistent with those of the teacher, the likely results are confusion, poor performance, and, particularly with older students, resentment. Second, economically disadvantaged students may not understand the teacher's expectations in terms of quality. What is an excellent score on a test and how is that determination made? What is an excellent essay or research paper? It is one thing to know that an essay needs to be of a certain length and should be written using a consistent manual of style. It is quite another to understand what makes an essay an excellent essay and, perhaps more importantly, how an excellent essay differs from a mediocre or poor one.

Implications for Educators

1. Connect behavioral and academic expectations whenever possible. One of the most important things that economically-disadvantaged students can learn in schools is the connection between effort (behavioral) and achievement (academic). Economically disadvantaged students are often told they are not smart enough to learn difficult or complex material. Such statements quite naturally lead to an ability-achievement connection. "I cannot learn no matter how hard I try" is a comment often heard during interviews with economically disadvantaged students. The expectancy-value theory of achievement motivation states that students will put forth the effort needed to learn if they value what they are learning and if they expect to be successful in their attempts to learn it. Therefore, helping economically disadvantaged students forge a link between effort and achievement will quite likely enhance their motivation.

2. Communicate explicit performance standards that define acceptable and/or excellent performance. In evaluation, the <u>criteria</u> are the factors or aspects that are taken into consideration in making a judgment about the quality of work or learning. For example, organization, clarity, and mechanics are criteria often used to evaluate essays. "Mechanics" refers to sentence structure (including subject-verb agreement), word choice, spelling, and punctuation. A performance standard defines what is acceptable or excellent for each criterion. The statement, "All your papers should be free or almost free from errors", is a performance standard associated with mechanics. When a task is assigned, it is important to communicate explicit performance standards. If the task is the completion of a problem set in mathematics, the performance standard would state the number of problems that need to be solved correctly. [In this example, the sole criterion is correctness.] If the task is a written report, then rubrics can be used to communicate both criteria and performance standards. If rubrics are used, however, it is important when working with economically disadvantaged students to give them opportunities to apply the rubric to written reports that differ in their quality so that they begin to understand what differentiates acceptable from unacceptable or excellent from "less than excellent".

3. For tasks that require multiple weeks to complete, establish a series of deadlines for completing and submitting work. For example, "I want to see an outline of what you are proposing by February 1st. Then, I want to see a rough draft of your report by February 21st and a final draft of the report by March 4th." These benchmarks permit students to feel that they are making progress, while at the

same time allowing teachers to give feedback that will likely result in superior products being produced.

Suggested Readings: Hattie, 2009; Rust, Price & O'Donovan, 2003; Sadler, 1998; Wigfield, A. & Eccles, 2000; Wolf & Stevens, 2007.

6. Integrate lessons through problem-based learning

Tasks that require multiple days or weeks to complete provide economically disadvantaged students with greater flexibility in learning time and enable them to integrate bodies of knowledge and apply clusters of skills.

Research Findings

As mentioned in our discussion of Principle 2, much of the teaching experienced by economically disadvantaged students can be understood as a series of "talk-work" sequences. The work tends to be assigned daily and is given to students as <u>practice</u> or as an <u>assessment</u> of their learning. Although these daily assignments have some value, they have at least two negative consequences. First, they emphasize discrete rather than integrated learning. In discrete learning, students master one lesson or objective and move on to the next. In integrated learning, connections between and among lessons and objectives are emphasized. Second, the assignments are intended to be completed in a limited amount of time: if not the same day then the next day. As a consequence, there is little, if any, time to re-teach what has not been learned or has been learned poorly.

Project-based or problem-based learning (PBL) is an approach that emphasizes learning tasks that are integrative and typically require multiple weeks to complete. The difference between conventional instruction and PBL can be seen quite clearly in the field of second language learning (SLL). Conventional SLL instruction is based on the assumption that students need to be taught grammatical and linguistic structures and rules <u>before</u> they can communicate. The use of PBL in SLL is based on the assumption that students learn a language (including its structure and rules) <u>by</u> communicating.

The overall project task is presented as an open-ended question, typically referred to as a "driving question." Examples include "What is the quality of air in my community?" and "How are good and evil depicted in different cultures?" Students are explicitly told (1) what the task is, (2) what they must do to complete the task, and (3) what they must submit once the task is complete (i.e., the deliverable).

Although PBL requires more planning than conventional teaching, the Internet provides a great deal of support for planning

and implementing PBL as well as WebQuests that students can complete on-line. The Buck Institute for Education's website (bie. org) contains a checklist of the essential elements of PBL. The website http://webquest.org/ provides useful information about the design and use of WebQuests as well as several examples.

Existing research suggests that PBL is often more beneficial for economically disadvantaged students than for their more advantaged peers. In some cases, participation in PBL has virtually erased the achievement gap between students from high- and low-socioeconomic backgrounds.

Implications for Educators

1. Start small! One of the biggest mistakes teachers make in implementing PBL is to think too big. Initially, projects should take no more than a week or two to complete. Rather than doing real-world fieldwork, fieldwork can be simulated in the classroom, using technology if necessary and available.

2. Design or select tasks, particularly driving questions, that are authentic, relevant, and meaningful (see Principle 1). Asking students what they are interested in learning about a particular subject, what problems they see in society at large, and/or what questions are being asked by experts in specific subject areas may provide useful information for formulating appropriate questions. Complete tasks can then be built around these questions.

3. Do not use PBL with objectives that focus on memorizing large amounts of factual information. When memorization is the goal, more conventional teaching methods are more likely to produce positive results since these methods allow more material to be covered in less time.

4. Finally, model the inquiry process when working with students as they work on their projects. Spend more time asking questions than giving answers. Suggest additional data that may be useful to consider, encourage them to draw conclusions based on the data, and demonstrate how to communicate these conclusions clearly to a variety of audiences.

Suggested Readings: Abbitt & Ophus, 2008; Halvorsen et al., 2012; Milson, 2002; Murphy, 2003; Nunan, 2004.

7. Incorporate cooperative tasks

Cooperative tasks enable economically disadvantaged students to aquire the social-interpersonal and metacognitive skills they will need to be successful in life.

Research Findings

Recruiters at major corporations report that a lack of technical skills is not an issue in finding qualified applicants; rather, the problem is a lack of human relations or "people" skills. Surveys of employers consistently show that more than half of job applicants are deficient in their interpersonal skills. Surveys of managers suggest that they spend the vast majority of their time (as high as 95%) dealing with personnel matters. More than two decades ago, the American Association for the Advancement of Science argued that a core practice of scientific inquiry is collaborative work. Therefore, schools should engage students in classroom tasks that require joint efforts to complete.

Although teachers using more conventional methods tend to view student-student communication as disruptive and potentially problematic, most task-based approaches provide ample opportunities for student-to-student communication and collaborative work. Cooperative learning is one such approach. Simply stated, cooperative learning is a form of active learning in which students work together to perform specific tasks in small groups. Each cooperative learning group is carefully selected so that a heterogeneous structure allows each student to bring his or her strengths to the group effort and benefit from the strengths of other members of the group. As should be obvious, cooperative learning is quite compatible with project-based learning (see Principle 6). However, whereas the the focus of project-based learning is the end result (that is, the completion of the project), a major focus of cooperative learning is on the process by which the end result is achieved.

The evidence suggests that lower-achieving students (a group that contains large numbers of economically disadvantaged students) benefit the most from working in heterogeneous groups, particularly in the areas of interpersonal and self-regulation skills. Because economically disadvantaged students are more likely to experience residential instability, psychological distress among adults, and low quality childcare settings, they are less likely to develop the self-regulation skills that have been associated with improved academic outcomes.

Implications for Educators

1. Because students must learn social-interpersonal skills just as they learn skills in any academic area, you should (a) select tasks that require collaboration, (b) explain the tasks and the importance of working together to complete the task, (c) structure the group work so that each student knows what he or she is expected to do, (d) model strategies for collaboration and conflict resolution, and (e) help students learn to evaluate the quality of their work both in terms of process and product. The jigsaw technique (see www.jigsaw.org) is often used to encourage collaboration since each student has a unique part to play in completing the task.

2. Pay attention to two often competing factors when designing and implementing cooperative learning: (a) group goals and (b) individual accountability. With a common goal, group members are more likely to be willing to help one another; higher achieving students deepen their learning by explaining concepts to peers and lower achieving students benefit from the additional support offered by peers. Without individual accountability, however, some group members may choose not to participate in the task at hand. Alternatively, a single member of the group may decide to take charge and do everything, minimizing the participation of the other members of the group.

3. Make sure that all students understand what is to be accomplished by the group and how it is to be accomplished in the group. Group work can be frustrating if instructions are unclear. Clear instructions not only explain the task but also specify the time allocated. As a general rule, it is better to allow too little time initially and then expand it as the need arises, rather than give students a 20-minute activity that many groups will complete in 10 minutes.

4. Keep groups together long enough for the group members to establish positive working relationships and establish trust. Students need time to become acquainted, to identify one another's strengths, and to learn how to support and coach one another. This is not to suggest that the same groups should persist for an entire semester or year. Within a semester, two regroupings may be as an optimal number.

Suggested Readings: American Association for the Advancement of Science, 1989; Duckworth, Akerman, MacGregor, Salter & Vorhaus, 2009; International Association of Administrative Professionals, 2014; Johnson & Johnson, 2009; Lubliner & Smetana, 2006.

8. Acknowledge and accommodate student diversity

When teaching economically disadvantaged students, a wide range of tasks should be included to accomodate student diversity.

Research Findings

Although we have used the phrase "economically disadvantaged students" throughout this booklet, anyone who works with these students knows that economically disadvantaged students do not form a homogeneous group. Furthermore, the meaning of "economically disadvantaged" differs from country to country and from culture to culture. When countries are compared on international tests such as the Program for International Student Assessment (PISA) tests, the results are likely impacted by some combination of economic and cultural "disadvantage". On such tests, there is ample evidence that, as a group, economically disadvantaged students achieve lower scores than their more advantaged peers. In addition, critics of PISA have argued that differences between countries can be attributed at least in part to the failure to take into consideration cultural differences (especially including language differences) when designing the tests and interpreting the test results.

Although there has been a great deal of emphasis on equal opportunity over the past half-century or more, it is instructive to point out that the Preface to the UNESCO Constitution, signed in November, 1945, includes the phrase "full and equal opportunities for education for all." "Full opportunity" means that each student, regardless of cultural and economic background, must be provided with the best education possible. "Full opportunity" means accommodating students' diversity in ways that provide maximum learning opportunity, rather than treating all students exactly the same (which would meet some people's definition of equal opportunity).

The concept of accommodation is closely related to the concept of fairness. Because fairness is fundamentally a socio-cultural issue, it must be addressed in all aspects of education – curriculum, instruction, classroom rules and routines, assessment, and evaluation. Fairness includes the ways in which cultural and linguistic diversity is approached; the extent to which the content of tasks reflects the experiences of different groups; and the availability of resources for different groups.

In the context of task-based learning, fairness means paying attention to the language, examples, illustrations, and expectations included in tasks. Fairness also means paying attention to the ways in which you interpret and evaluate how students work on tasks and the quality of the work they produce. As teachers examine the tasks they design and/or select, then, they should ask one fundamental question: "Am I providing <u>full</u> <u>and</u> <u>equal</u> opportunities for all my students?"

Implications for Educators

1. Provide variety. There is an old saying that variety is the spice of life. Variety is also important when dealing with classroom diversity. For any given objective, there are many tasks that are appropriate. For any given task, there are many activities that are appropriate. For any given task and objective, there are many ways in which work and learning can be assessed. Suppose, for example, students are working on a task based on the question, "Which is colder, the North Pole or the South Pole?" They can obtain the needed information by reading, watching videos, or interviewing experts. They can demonstrate their learning by writing a formal research report, preparing and presenting a PowerPoint, completing a graphic organizer, or taking a test. These different activities and assessments provide diverse opportunities for students to learn as well as to demonstrate their learning.

2. Our second implication follows from the first. Permit students to choose from a limited, approved set of alternative activities, assignments, and materials. In some cases, students can work with the teacher to design complete tasks. Imposing limits on student choice is necessary to ensure that the choices are consistent with the learning objective(s). For example, a student cannot choose to do narrative writing when the task requires persuasive writing. The key here is to separate <u>substance</u> from <u>form</u>. The substance of the task (e.g., content, cognitive demands) must be the <u>same</u> for all students. The form of the task (e.g., how to learn and how to demonstrate that learning has occurred) can <u>differ</u>.

3. Work diligently to build relationships with all students, regardless of their economic status, gender, racial identity, or cultural background. In addition, model the behavior you expect from you students. The learning environment, whether defined as the classroom or small groups within the classroom, should be characterized by egalitarian norms and acceptance of diversity. Full participation by all students is always expected, if not demanded. Mutual respect should be evident in every interpersonal transaction, whether it is teacher-student, student-teacher, or student-student. When classrooms and groups within classrooms are characterized by egalitarian norms, acceptance of diversity, full

participation, and mutual respect, students experience a sense of belonging. A sense of belonging is a factor repeatedly found to predict the likelihood of staying in school, rather than dropping out.

Suggested Readings: Cole, 2008; Cruzan & Kaluszka, 2010; Ivi , Pešikan & Anti , 2013; Stobart, 2005; Wuttke, 2007.

Conclusion

This booklet has highlighted the principles to consider when developing content and curricula to improve the quality of education for economically disadvantaged students. For low-achieving or "struggling" students, a group that quite often includes numerous economically disadvantaged students, engagement in classroom tasks is critical for motivation. Engagement can come through the use of authentic, relevant, and meaningful content that allows students to connect what they are learning to the outside world, to their needs and interests, and to their prior learning. In addition, by reversing the normal "talk-work" sequence in the classroom to "work-talk" or "talk and work", teachers can better observe what students are retaining during learning tasks before moving ahead to assessment and practice lessons.

Adjusting the classroom paradigm by placing the student as the main actor and the teacher as the director providing succinct and helpful feedback from the "side" allows teachers to attend to the "big picture" and plan content and activities depending on the context. Furthermore, focusing on helpful learning strategies – including those unique to each student – is important for students who often show substantial deficits in their awareness of the strategies that produce more effective learning. As noted earlier, economically disadvantaged students are often told they are not smart enough to learn difficult or complex material. Therefore, ensuring that students value what they are learning and expect to be successful in their attempts to learn it is key to motivation.

Project-based or problem-based learning (PBL) is an approach that emphasizes learning tasks that are integrative and typically require multiple weeks to complete, allowing students the flexibility to catch up on learning time and utilize skill clusters. Similarly, encouraging collaboration and cooperation through group activities, both short-term and semester-long, allows students to utilize their strengths, learn from their peers, and build inter-personal and self-regulation skills often lacking in their outside environments. Finally, acknowledgment of student diversity and an emphasis on egalitarian norms, full participation, and mutual respect among all classroom participants is central to fostering quality education for economically disadvantaged students.

References

Abbitt, J. & Ophus, J. (2008). What we know about the impacts of WebQuests: A review of research. *AACE Journal, 16*, 441-456.

American Association for the Advancement of Science (1989). *Science for all Americans: Project 2061*. New York: Oxford University Press.

Anderson, L. W., Ryan, D. W., & Shapiro, B. J. (1989). *The IEA Classroom Environment Study*. Oxford: Pergamon Press.

Askell-Williams, H., Lawson, M. J., & Skrzypiec, G. (2011). Scaffolding cognitive and metacognitive strategy instruction in regular class lessons. *Instructional Science, 40*, 413-443.

Cole, R. W. (2008). *Educating everybody's children: Diverse teaching strategies for diverse learners, Second edition*. Alexandria, VA: ASCD.

Cruzan, D. & Kaluszka, C. (2010). *Motivation and assessment: The impact of choice on motivation in classroom assessments*. Unpublished manuscript, Virginia Polytechnic Institute and State University, Blacksburg, VA. Retrieved July 24, 2014 from https://scholar.vt.edu/access/content/user/dcruzan/PortfolioPublic/ActionReasearchProjectFinal.pdf

Darling-Hammond, L. (2012). *Creating a comprehensive system for evaluating and supporting effective teaching*. Palo Alto, CA: Stanford Center for Opportunity Policy in Education.

Donovan, M. S., & Bransford, J. D. (Eds.). (2005). *How students learn: History, mathematics, and science in the classroom*. Washington, DC: National Academies Press.

Doyle, W. & Carter, K. (1984). Academic tasks in classrooms. *Curriculum Inquiry, 14*, 129-149.

Duckworth, K., Akerman, R., MacGregor, A., Salter, E. & Vorhaus, J. (2009). *Self-regulated learning: Literature review*. London: Centre for Research on the Wider Benefits of Learning, Institute of Education, University of London.

Dunlosky, J. (2013). Strengthening the student toolbox: Study strategies to boost learning. *American Educator, 35*(3), 12-21.

Gaskins, I. W. (2005). *Success with struggling readers*: *The Benchmark School approach*. New York: Guilford Press.

Glaser, R. (1991). The maturing of the relationship between the science of learning and cognition and educational practice. *Learning and instruction*, *1*(2), 129-144.

Haberman, M. (1991). The pedagogy of poverty versus good teaching. *Phi Delta Kappan, 73*, 290-94.

Halvorsen, A., Duke, N. K., Brugar, K. A., Block, M. K., Strachan, S. L., Berka, M. B. & Brown, J. M. (2012). Narrowing the

achievement gap in second-grade social studies and content area literacy: The promise of a project-based approach. *Theory and Research in Social Education, 40,* 198-229.

Harris, C. & Marx, R. (2009). *Authentic tasks.* Retrieved on January 15, 2005, from http://www.education.com/reference/article/authentic-tasks/.

Hattie, J. A. C. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement.* London: Routledge.

Hunt, B. C. (2009). *Teacher effectiveness: A review of international literature and its relevance for improving education in Latin America.* Washington, DC: PREAL.

Hyslop-Margison, E. & Strobel, J. (2008). Constructivism and education: Misunderstandings and pedagogical implications. *The Teacher Educator, 43*(1), 72–86

International Association of Administrative Professionals (2014). *Interpersonal skills most important factor in career advancement.* Retrieved June 26, 2014 from http://www.iaap-hq.org/resources/interpersonal-skills-most-important-factor-career-advancement.

Ivi , I., Pešikan, A. & Anti , S. (2013). *Textbook quality*: *A guide to textbook standards.* Gottingen, Germany: V&R Unipress.

Jacobs, J. K. & Morita, E. (2002). Japanese and American teachers' evaluations of videotaped mathematics lessons. *Journal for Research in Mathematics Education, 33*, 154-175.

Johnson, D. W. & Johnson, R. T. (2009). An educational psychology success story: Social interdependence theory and cooperative learning. *Educational Researcher, 38*, 365-379.

Logan, G. D. (1985). Skill and automaticity: Relations, implications, and future directions. *Canadian Journal of Psychology, 39*, 367-86.

Lubliner, S. & Smetana, L. (2006). The effects of comprehensive vocabulary instruction on Title I students' metacognitive word-learning skills and reading comprehension. *Journal of Literacy Research, 37*, 163-200.

MacGregor, R. R. (2007). *The essential practice of high quality teaching and learning.* Bellevue, WA: Center for Educational Effectiveness.

Mayer, R. E. (2001). Rote vs. meaning learning. *Theory into Practice, 41*, 226-232.

Millar, R. (2004). *The role of practical work in the teaching and learning of science*. Washington, DC: National Academy of Sciences.

Milson, A. J. (2002). The Internet and inquiry learning: Integrating medium and method in a sixth grade social studies classroom. *Theory and Research in Social Education, 30*, 330-353.

Murphy**,** J. (2003). Task-based learning: The interaction between tasks and learners. *ELT Journal, 57,* 352-360.

National Survey of Student Engagement. (2013). *A fresh look at student engagement—Annual results 2013*. Bloomington, IN: Indiana University Center for Postsecondary Research.

Nunan, D. (2004). *Task-based language teaching*. Cambridge: Cambridge University Press.

Pešikan, A. (2010). Savremeni pogled na prirodu školskog u enja i nastave: socio-konstruktivisti ko gledište i njegove prakti ne implikacije (Contemporary view of the learning and teaching: Socio-constructivist perspective and its practical implications). *Psihološka istraživanja*, *13*(2), 157-185.

Roberson, R. (2013). Helping students find relevance. *Psychology Teacher Network*. Retrieved on January 15, 2005, from http://www.apa.org/ed/precollege/ptn/2013/09/students-relevance.aspx.

Rust, C., Price, M., & O'Donovan, B. (2003). Improving students' learning by developing their understanding of assessment criteria and processes. *Assessment and Evaluation in Higher Education, 28(2)*, 147-164.

Sadler, D. R. (1998). Formative assessment: Revisiting the territory. *Assessment in education*, *5*(1), 77-84.

Sarason, S. (1999). *Teaching as a performing art*. New York: Teachers College Press.

Shernoff, D. J., Csikszentmihalyi, M., Schneider, B., & Shernoff, E. S. (2003). Student engagement in high school classrooms from the perspective of flow theory. *School Psychology Quarterly, 18*, 158-176.

Sizer, T. (1997). *Horace's school: Redesigning the American high school*. Boston: Mariner Books.

Stobart, G. (2005). Fairness in multicultural assessment systems. *Assessment in Education*, *12*(3), 275-287.

Wigfield, A. & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology, 25*, 68-81.

Wolf, K. & Stevens, E. (2007). The role of rubrics in advancing and assessing student learning. *Journal of Effective Teaching, 7*(1), 3-14.

Wuttke, J. (2007). Uncertainties and bias in PISA. Retrieved July 21, 2014 from http://www.oxydiane.net/IMG/pdf/Uncertainties_and_Bias_in_PISA.pdf.

Notes

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

The International Bureau of Education–IBE

Mandate

To strengthen the capacities of Member States to design, develop, and implement curricula that ensure the equity, quality, development-relevance, and resource-efficiency of education and learning systems.

The IBE's mandate strategically positions it to support Member States' efforts to implement SDG4 and indeed other SDGs that depend for their success on effective education and learning systems.

Vision

A world where each and every person is assured quality and relevant education and lifelong learning.

Mission

To provide support and promote innovative solutions to challenges ministries of education and governments face in the complex task of improving equity, quality, relevance, and efficiency of their curriculum, teaching, learning, and assessment processes and outcomes.