

Independent and Interdependent Remedial/ Developmental Student Learners

LARONNA DEBRAAK
MESA STATE COLLEGE

As scholars continue to debate over the specific skills underprepared students need in order to complete their course of study, perhaps the focus should be on how to tap into students' independent thought processes and encourage students to utilize independent thought to contribute to interdependent groups. Placing value on students' independent (self-directed or autonomous) contributions and encouraging interdependent (group) activities greatly enhances students' ability to obtain their educational goals. The six-step process guides faculty through the process of creating and implementing a strong independent and interdependent learning experience.

INDEPENDENT AND INTERDEPENDENT STUDENT LEARNERS

History is bursting with the individual contributions of those who marched to the beat of a different drummer. Albert Einstein, Benjamin Franklin, and Mahatma Gandhi each left a lasting effect on the world due to their abilities to learn and function independently of others. Winston Churchill commented, "Personally, I am always ready to learn, although I do not always like being taught." Socrates said, "I cannot teach anybody anything, I can only make them think." Carl Rogers knew, "The only kind of learning which significantly influences behavior is self-discovery or self-appropriated learning-truth that has been assimilated in experience" (Rogers, 1961, p. 261).

The terms “remedial” and “developmental” have been used interchangeably but gradually have evolved to the understanding that “remedial” describes basic grammar, reading, and mathematics. In contrast, “developmental” coursework prepares students for a multitude of college courses or programs. Remedial and developmental coursework implementation varies from institution to institution. Some institutions focus strictly on teaching students the skills necessary to pass competency exams in reading, writing, and mathematical concepts while others offer a variety of remedial and developmental coursework. What courses should be offered remains a question of continuous debate. Instead of focusing on what to teach, time might better be spent on how to integrate independent and interdependent learning strategies. Teaching students to become independent and to work in interdependent groups enables them to learn utilizing a wide variety of sensory input. Independent learning is essentially the ability to create an individual independence of the current thoughts of others, implement individualized decisions, and evaluate one’s own ideas. The ability to function and learn independently is a skill that many developmental students are lacking, yet the development of interdependent skills is also necessary to ensure student success.

INDEPENDENT LEARNING

Independent learners take responsibility for their learning, become engaged in learning situations, and are self-regulated when necessary (Jones, Valdez, Nowakowski, & Rasmussen, 1995). The ability to think and evaluate information independent of others’ interpretations or the current popular belief allows for creative thought and innovation (Isaacson, 2007). Many independent thinkers achieved notoriety, and their individual achievements have benefited humanity (Gelb, 2003). Knowles popularized the idea that independent learning is essential for adult learners (Knowles & Associates, 1975).

Independent learning enables students to transfer learning and skills among various situations. For example, students who are able

to teach themselves how to use a tape measure in order to determine how to measure correctly and cut a board for a building project can relate that information to measure other items for a variety of different projects. Independent learning focuses on empowering students to take responsibility for learning decisions. Development of this skill enables students to use their own resources to discover answers to problems and increases their abilities to build upon their individual knowledge base and to transfer this knowledge to unrelated learning. Independent learning also allows individuals to focus upon topics and ideas that appeal to them. In addition, it allows individual learning preferences to be developed and fostered. Examples of independent learning are self-guided reading, research, and reflective writing activities. Initiative and the ability to be innovative greatly contributes to the likelihood that developmental students will acquire the skills necessary to become independent learners. However, all learning does not take place in isolation. Interdependent learning is also an essential aspect of learning.

INTERDEPENDENT LEARNING

Interdependent activities provide students with peer interaction, a division of work, and opportunities to communicate and share ideas within a supportive learning environment. Interdependent activities should provide clear goals and objectives, and the group work should also encourage students to work together as they collaboratively manage the process of learning. The sharing of dialogue among groups of learners enables students to evaluate their ideas against the ideas of others. Enabling students to test their evaluations and outcomes promotes the development of critical thinking skills. Interaction with peers and instructors develops students' abilities to speak in front of groups and to practice social skills. An active learner is likely to remember more details and to integrate ideas more effectively. Paraphrasing the ideas of others enables learners to translate information into their own words and make it meaningful. Collaborative learning activities also enable students to learn from each other, question their thought processes,

and test their results against the results of others.

Interdependent learning involves interaction among varying numbers of participants and is group centered rather than individual centered. The key to interdependent learning is interactivity. Stephen Covey describes interdependent activity's importance and contribution to the learning process: "Nothing is more exciting and bonding in relationships than creating together" (Covey, 1997, p. 251). Interdependent learning is the development of an intertwined and interconnected outcome that enhances student understanding and values each student's individual contribution to the whole. Interdependent learners have the ability to work independently and as contributors to larger groups; however, specific individual achievement is unrelated to the actions or input of other students (Deutsch, 1962; Johnson & Johnson, 1989). To serve the needs of students, the educational focus for institutions of higher learning should be placed on teaching students the skills necessary to become both competent independent (self directed or autonomous) and interdependent (group) learners.

TECHNIQUES FOR INTEGRATING INDEPENDENT AND INTERDEPENDENT LEARNING

In the past, an apprentice developed and learned a particular skill by modeling his master benefactor, utilizing the medium of dialogue, demonstration, and participation, thus integrating independent and interdependent methods. This multi-sensory approach to learning provides students numerous opportunities to develop and integrate new skills. Individual, experiential, and integrated learning activities increase interest and participation. English students may work independently utilizing newspapers, magazines and the Internet while conducting research on a specific topic, such as global warming, for a paper. Individuals' papers could later be contributed to a group global warming newspaper that contains reports from various viewpoints. Another lesson could involve an independent experimental activity such as creating an object out of clay and writing about the experience. Afterward, the students could compare their written experiences with

the clay with the experiences of their classmates and develop a group paper that notes similarities and differences.

To apply this principle to a reading course, a reading instructor could assign a specific topic such as the effects of pollution on the environment, and then, instruct each individual student to identify a specific aspect of pollution that they find particularly troubling. In this example, students would collectively identify their pollution concerns and locate articles that relate to their topic. Afterwards, each student would paraphrase the article in a paper and compose a short speech outlining its contents to share with the class. Lastly, the students would contribute their ideas to a unified paper that outlines their interdependent concerns about the effects of pollution on the environment.

Math students could discover the meaning of stock percentages as they compete against one another for high percentage gains utilizing the stock market section of the newspaper, an interdependent and independent exercise. In another lesson, students could each pick a car they would like to own and determine yearly expenses based on vehicle price utilizing various loan options, yearly fuel consumption, and insurance. This lesson could be expanded to include the cost of operating the vehicle weekly and monthly.

INDEPENDENT AND INTERDEPENDENT LEARNING SIX-STEP PROCESS

My inspiration for the six-step process was derived due to the frustration I felt while attempting to figure out a definite method to help students value their own individual independent thoughts, and to contribute their independent thoughts to an interdependent activity.

The six-step method offered here provides an outline for developing independent and interdependent lesson plans. This example was developed for my developmental English course and prepares students for college English. In this example, the foundation of the six-step method involves assigning each student a specific role or bias with which to identify and conduct research. Assuming a topic of energy sources, the following example demonstrates the process and progression through the six steps.

Step One: Independent Library Activity: Assign each student to a particular energy source group. Energy source groups may consist of coal, nuclear, hydroelectric, wind, gas/oil, fusion, refuse-based fuel, solar, biomass, and hydrogen. Next, within each energy group assign each student a particular biased role to assume (play) while conducting research. Sample roles are scientist, politician, corporation, executive, government official, lobbyist, international organization or association, and environmentalists. For example, a student may be an oil company executive, politician for oil production, lobbyist for ethanol production, member of the cattle association, a farmer producing corn, company executive who uses corn to produce the company's product, executive that produces products that use petroleum to manufacture company products, politician whose platform is green alternatives, etc.

After all students have been assigned their unique biases, each student is given a set of questions to answer keeping in mind his/her biased viewpoint. Typical questions include: Why is your energy source better for America in the long run? How is your view benefiting the economy now or how will it benefit the economy in the future? Who else supports your point of view? What energy source(s) does your bias support? To answer these questions, students conduct research at the library and develop a list of resources.

Step Two: Interdependent Activity: Divide students into groups based upon their energy source. Provide the groups with the website to the World Energy Council (<http://www.worldenergy.org>) and instruct them to read the section on the upcoming World Energy Congress meeting. Request that the groups answer the following question: Based on your research, what advantage does your energy source offer that you would like to present during the World Energy Congress? During this portion of the process, students provide expertise based on their assigned roles and collaboratively develop a strategy for defending their energy source(s) during the World Energy Congress. Portions of their strategy may include: petroleum is a better energy source than ethanol because ethanol

production will drive up the price of corn or the price of farm land, finding an alternative source to petroleum would be too costly, and petroleum production is the source of many of the jobs within the community. Another group representing ethanol may choose a biased environmental approach, or focus on the benefits to farming communities from ethanol production.

Step Three: Interdependent Activity: Involve students to conduct classroom discussions on alternative fuels and allow students to divide into groups to compose a collaborative compare/contrast paper that identifies two alternative energy sources and outlines the benefits of each. This step requires students to learn from their peers about the advantages and disadvantages of a variety of energy sources. Another activity could include the group's development of a PowerPoint presentation demonstrating the advantages and disadvantages of varying energy sources.

Step Four: Independent Activity: Each student outlines a strategy utilizing the research they conducted, while playing the role of an expert, to write a paper about their energy source. For example, a student who read articles as a scientist in support of hydroelectric power could write a paper on the benefits of hydroelectric power to the world's economy. In contrast, a student who read articles assuming the role of a scientist for petroleum might report on the huge amounts of petroleum in a particular area or on petroleum based products.

Step Five: Interdependent Activity: During class students share individual papers with the class and seek peer feedback.

Step Six: Independent and Interdependent Activity: In step three, students were separated into groups and assigned a particular bias (in this case an energy source) and a specific role while conducting research. In this final step, each student writes one paragraph as the expert for a particular energy source in relation to the assigned role to contribute to a final paper. Each individual's goal is to contribute an expert or role-based paragraph to a group paper that will be used to convince an audience of peers that each particular energy source is essential to fulfill the future needs of the American economy.

The six-step process encourages underprepared college students to develop independent (self-directed or autonomous) skills and provide valuable interdependent (group) contributions to group projects, thus improving their ability to teach themselves and to learn from others.

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LaRonna DeBraak currently serves as the Director of Developmental Programs for Western Colorado Community College and Mesa State College. She is also the President of the Colorado Association of Developmental Education. She has authored one book, various articles and has consulted with government and higher education organizations. She earned her Master in Business Administration from Regis University at Denver and is a doctoral candidate at Colorado State University.