How to Teach and Support Pair Programming in your Middle and High School Classroom

Pair programming is when two people work on a computer together, each with a different role. One is the “Driver” who controls the mouse and keyboard and one is the “Navigator” who helps direct the driver. They complete programming tasks together, rotating roles regularly.

1. Friendship matters.
Consider letting students choose their own partners. This is especially effective if working with a group in which retention is an issue.

2. Make it visible.
Create a poster of what effective pair programming looks like by brainstorming as a group. Refer to it throughout.

3. Play it out.
Use a role play to model what effective and ineffective pair programming looks like.

4. Creative cooperation.
Let students create their own versions of Navigator and Driver roles. Sometimes one types and the other manipulates the mouse. All behaviors are okay as long as they are respectful and both partners are engaged.

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5. **Pair programmers of the week.**
   Acknowledge specific pairs in front of whole group. Note specific effective pair programming behaviors and give out small PRIZES.

6. **Beyond the computer.**
   Do off-the-computer activities for partners to practice clear communication and listening skills.

7. **Dynamic duo.**
   Remind students that with two people they can *generate twice as many ideas* and prevent twice as many mistakes.

8. **Step-back and step-in.**
   Encourage more assertive students to “step-back” in the pair to *listen and respond* to their partner. Encourage less assertive students to “step-in” by *talking about their ideas* and helping solve programming challenges.

9. **Switch resistance.**
   If pairs resist switching roles, give them more structure by setting up a timer to help them *remember when to switch*.

10. **Go team!**
   Emphasize teamwork and communication. When you hear pronouns like “I” and “my” being used by a partner, remind them of “we” and “us.”

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