Self-Regulated Learning: An Opportunity in Vocational Education

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Self-Regulated Learning

- Active
- Control and direction of cognitive and motivational processes
- Planning, monitoring, and evaluating
- Effective strategy use
- Lifelong learning

(e.g. Zimmerman, 2000)
Research question

What characterises well performing students in vocational education and what kind of learning strategies do they use?
Method

• Selection of students (9 females and 9 males)

• WPS lesson:
  • Observation
  • Interview
  • Interaction
  • Evaluation teacher

• Analyses
  • Interview
  • Interaction
## Analysis scheme of SRL learning strategies

<table>
<thead>
<tr>
<th>Categories</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td>Statements indicating student task-related planning activities, e.g., goal setting, sequencing, and timing.</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Statements indicating student-initiated efforts to keep a close eye on their performance and controlling process and progress.</td>
</tr>
<tr>
<td>Adjusting</td>
<td>Statements indicating a change in the approach, e.g., correcting a mistake or using different materials.</td>
</tr>
<tr>
<td>Evaluating</td>
<td>Statements indicating student-initiated evaluations of the quality of their task performance with regard to the product, e.g., “Then I take a step back and look at my performance.”</td>
</tr>
<tr>
<td>Reflecting</td>
<td>Statements indicating students’ awareness of their process: strength and weaknesses, aspects they have to pay attention to, knowing what is useful, difficult or easy, e.g., “That is one of the most difficult exercises for me.”</td>
</tr>
<tr>
<td>Environmental structuring</td>
<td>Statements indicating student-initiated efforts to select or arrange the physical setting to make learning easier, e.g., “I choose a quiet place.”</td>
</tr>
<tr>
<td>Seeking social assistance</td>
<td>Statements indicating student-initiated efforts to seek, give or receive help from a) peers and b) teachers. This category was further divided into social interactions concerning material, content, performance and process matters.</td>
</tr>
</tbody>
</table>

(cf. Zimmerman & Martinez-Pons, 1986)
Results

<table>
<thead>
<tr>
<th>TASK PERFORMANCE * STUDENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>work attitude</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>PREPARATION</th>
<th>EXECUTION</th>
<th>CLOSING</th>
</tr>
</thead>
<tbody>
<tr>
<td>orienting</td>
<td>monitoring</td>
<td>evaluating</td>
</tr>
<tr>
<td>planning</td>
<td>adjusting</td>
<td>reflecting</td>
</tr>
</tbody>
</table>

- environmental structuring
  - organising
    - problem solving
  - keeping records
  - seeking and selecting
  - seeking social assistance
  - persistency + self-efficacy

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Professional development + deliberate practice
PLANNING

• GA: ‘I had the goal to finish something during the lesson and I managed.’
• RK: ‘I checked my watch to see how much time I had left before we had to start cleaning up.’
• CH: ‘We discussed the order in which to use the instruments.’
• FH: ‘Before I started to cut the vegetables I wondered should I start with that or should I make the mushroom sauce first. Well, yes, that was actually the point in time when it went wrong. I should have started with the mushroom sauce but I decided to cut the vegetables first. I thought that cutting the vegetables would take longer and I forgot about the fact that the mushroom sauce had to be on the stove for 20 minutes…’
ENVIRONMENTAL STRUCTURING

• DS: ‘We can choose where to sit ourselves and at first I was sitting next to Rolf, but I got sick to his back teeth. So I decided to move to another table. And now it is fine, every table has its’ own people from totally crazy to concentrated.’

• NB: ‘It is always important that I am not sitting next to people I am having a too good time with, because I am very quickly sociable and easily distracted. Thus, I usually try to find a quite place.’
MONITORING and ADJUSTING

• IV: ‘Mostly, I check to verify if I have used the good codes and if I have used the line accurately. Because sometimes I am wrong. Some time ago, I wrote down 21 although it should have been 22, so I check the drawing to see if it is correct what I am doing.’

• RD: ‘I checked the different switches first to see if one is broken, because if you start without controlling it, you will have a problem later on when you have programmed everything.’

• RK: ‘When I realise that a curling pin is too loose from the skin, then I roll it out and then I roll it in again but then tighter so that it is better fixated.’
SEEKING SOCIAL ASSISTANCE

• KT: ‘I consult someone who knows a lot, not someone who knows very little.’

• NZ: ‘I had a hunch but I was not completely sure if there were more possibilities.’

• DS: ‘Yes, that was with the cutting machine. I did not see the zero and I adjusted the machine incorrectly. I thought that cannot be correct and so I decided to ask the teacher.’
EVALUATING and REFLECTING

• BB: ‘The electrical circuit was working correctly.’
• NZ: ‘The motor ran better.’
• GA: ‘The corners were at the right angles.’
• CH: ‘Everything went well and I did not experience any problems.’
• KT: ‘The teacher finds it good.’
Conclusions

**Preparation:**
- Planning with regard to time and resources, **but** no elaborated plan including goals, sequences, and timing
- Active in selecting an ideal workplace

**Execution:**
- Monitoring & adjusting was regularly executed by keeping a close eye on the product
- Comfortable and proactive help seeking behaviour

**Closing:**
- Evaluation is based on the product, their working process was less often taken into account
- Reflected on aspects they wanted to improve