

The Research Autonomy and Complexity Tool (RAC-T)

Aim

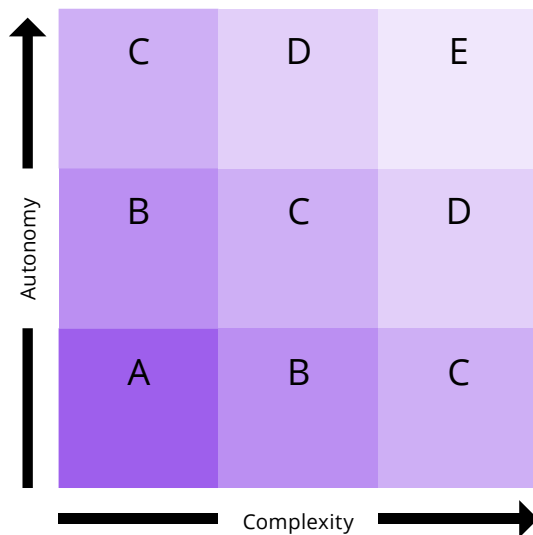
Educating students in research competencies such as critical thinking or problem solving is increasingly an aim in higher education. The instruments presented here can be used to discuss the level and content of research skills that students need as they go through their education.

The Research Autonomy and Complexity Tool (RAC-T)

This tool provides a language to debate the level of research expected of students (and other stakeholders). This consists of two axes:

- **Autonomy:** the desired amount of autonomy and independence of the student while fulfilling a research assignment
- **Complexity:** the complexity of the research assignment, which includes interdisciplinarity, the knowledge and skills needed to be developed and number of assignments.

Both autonomy and complexity are described in five levels, ranging from A - low to E - high. These five levels can be adapted or made more precise when needed for a particular context.



Commented [LO1]: De figuur met het alleen het overzicht van A naar E helpt de leze enorm bij het lezen van het volledige overzicht. Kan A nog donkerder en E nog lichter? Op mijn laptop lijkt A dezelfde tint grijs als B en E dezelfde tint grijs als D.

Overview of the Research Autonomy and Complexity Tool (RAC-T)

<p>Level C</p> <p>Complexity: low</p> <ul style="list-style-type: none"> • Single element assignment, one context • Limited number of themes of a single order/scale level • Application of the student-known • Procedures • Mono-disciplinary • Location: within the context of the educational programme or for the student-familiar context <p>Autonomy: high</p> <ul style="list-style-type: none"> • A lot of self-steering, supervision upon request or at low frequency • A high amount of freedom to make process choices • Large responsibility for the end result • Supervises others in a team • Strategic role 	<p>Level D</p> <p>Complexity: middle</p> <ul style="list-style-type: none"> • Multiple (part) assignments in a single situation, or a single element assignment in multiple situations • Limited number of themes of different order/scales, or multiple themes of a single order/scale • Assignment requests adaptation of known procedures • Limited interdisciplinary • Unfamiliar context but can be overseen in size and system complexity <p>Autonomy: high</p> <ul style="list-style-type: none"> • A lot of self-steering, supervision upon request or at low frequency • A high amount of freedom to make process choices • Large responsibility for the end result • Supervises others in a team • Strategic role 	<p>Level E</p> <p>Complexity: high</p> <ul style="list-style-type: none"> • Diversity in (part) assignments in different contexts • Multiple themes of different order/scale • Unknown procedure • New knowledge and skills need to be developed • Multidisciplinary • Location: context is unknown, large and complex <p>Autonomy: high</p> <ul style="list-style-type: none"> • A lot of self-steering, supervision upon request or at low frequency • A high amount of freedom to make process choices • Large responsibility for the end result • Supervises others in a team • Strategic role
<p>Level B</p> <p>Complexity: low</p> <ul style="list-style-type: none"> • Single element assignment, one context • Limited number of themes of a single order/scale level • Application of the student-known • Procedures • Mono-disciplinary • Location: within the context of the educational programme or for the student-familiar context <p>Autonomy: middle</p> <ul style="list-style-type: none"> • Reasonable amount of autonomy and average amount of guidance, added with supervision upon request • Freedom in making choices within a fixed framework • Final responsibility of a part of the final assignment • Tactical role 	<p>Level C</p> <p>Complexity: middle</p> <ul style="list-style-type: none"> • Multiple (part) assignments in a single situation, or a single element assignment in multiple situations • Limited number of themes of different order/scales, or multiple themes of a single order/scale • Assignment requests adaptation of known procedures • Limited interdisciplinary • Unfamiliar context but can be overseen in size and system complexity <p>Autonomy: middle</p> <ul style="list-style-type: none"> • Reasonable amount of autonomy and average amount of guidance, added with supervision upon request • Freedom in making choices within a fixed framework • Final responsibility of a part of the final assignment • Tactical role 	<p>Level D</p> <p>Complexity: high</p> <ul style="list-style-type: none"> • Diversity in (part) assignments in different contexts • Multiple themes of different order/scale • Unknown procedure • New knowledge and skills need to be developed • Multidisciplinary • Location: context is unknown, large and complex <p>Autonomy: middle</p> <ul style="list-style-type: none"> • Reasonable amount of autonomy and average amount of guidance, added with supervision upon request • Freedom in making choices within a fixed framework • Final responsibility of a part of the final assignment • Tactical role
<p>Level A</p> <p>Complexity: low</p> <ul style="list-style-type: none"> • Single element assignment, one context • Limited number of themes of a single order/scale level • Application of the student-known • Procedures • Mono-disciplinary • Location: within the context of the educational programme or for the student-familiar context <p>Autonomy: low</p> <ul style="list-style-type: none"> • Limited autonomy and intensive guidance • Asks for assistance for unexpected circumstances • Does not make independent decisions • Responsibility for own actions 	<p>Level B</p> <p>Complexity: middle</p> <ul style="list-style-type: none"> • Multiple (part) assignments in a single situation, or a single element assignment in multiple situations • Limited number of themes of different order/scales, or multiple themes of a single order/scale • Assignment requests adaptation of known procedures • Limited interdisciplinary • Unfamiliar context but can be overseen in size and system complexity <p>Autonomy: low</p> <ul style="list-style-type: none"> • Limited autonomy and intensive guidance • Asks for assistance for unexpected circumstances • Does not make independent decisions • Responsibility for own actions 	<p>Level C</p> <p>Complexity: high</p> <ul style="list-style-type: none"> • Diversity in (part) assignments in different contexts • Multiple themes of different order/scale • Unknown procedure • New knowledge and skills need to be developed • Multidisciplinary • Location: context is unknown, large and complex <p>Autonomy: low</p> <ul style="list-style-type: none"> • Limited autonomy and intensive guidance • Asks for assistance for unexpected circumstances • Does not make independent decisions • Responsibility for own actions

Complexity