



**Honoursprogramma**

Innovators Experience

**Competences for Innovative Working - Learning to Innovate**

**for**

**the Honours Programme at Rotterdam University of Applied Sciences**



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**Working paper**



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### Competences for Innovative Working - Learning to Innovate

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## How are the five competences in the competence profile Learning to Innovate further defined?

The competence profile Learning to Innovate has been specially developed for the honours programme at Rotterdam University of Applied Sciences. The added value of an honours programme has been examined in consultation with the professional field. Professional practice has a need for people who can think innovatively, who are capable of departing from fixed patterns of thought and being creative. There is a demand for people who have learned how to collaborate with people from different professional disciplines and for people who are able to reflect effectively and who can develop and share new knowledge.

The competence profile Learning to Innovate therefore includes the following five competences:

1. Innovation driven
2. Demand driven
3. Collaborative working
4. Interactive learning
5. Knowledge creation

If you wish to graduate with an honours degree, you will have to have mastered these competences by taking part in honours education. To prove this, you will complete an Honours Final Assessment. You will then receive an Honours Degree Certificate in addition to the certificate for attaining the final qualifications in your Bachelor's study programme. This certificate will help you to stand out in the job market.

### The structure of the competences

Each competence is constructed in the same way. The description includes the following:

- Role: the role you are expected to play
- Domain: the domain you act within
- Specification: what is specific to that role and that domain

This is followed by a concise *description* of the *Competence* and the *Context* in which the competence should be seen and assessed. What the expectations are as regards the result for the competences in question will be clearly described in the order

'To....

You must ....

So that ....'

And finally, *Behavioural Elements* are described for each competence. The behavioural elements are described in such a way that the student's *behaviour* (in the professional context) can be measured as effectively as possible by means of these descriptions. *Behavioural indicators* are provided to help you.

### Please note:

When assessors assess the competences, they always assess

- the *entire* competence profile and
- the *entire* competence

No assessment can be made of individual behavioural indicators. When determining whether the student has actually demonstrated the behaviour described in the competence, it is therefore necessary to know and be able to recognise the behavioural elements and not simply look at the behavioural indicators.

## How should the assessment of the competences be approached?

There are **three aspects** that enable the targeted competences to be assessed:

1. The context in which an activity takes place
2. The student's *self-directed learning ability* to carry out the activity
3. The extent to which the innovative content of the *activity* / the outcome / the product and the multi/inter/trans-disciplinary collaboration can be measured.

These three aspects form the basis for determining whether the performance deserves the designation 'honours'. The aim is to enable the student to develop into an '**excellent professional**', a professional who can start work in his or her profession at as complex and multidisciplinary a level as possible, with an innovative and reflective ability that is developed to the highest possible degree.

### 1. The context

The **complexity** of the context in which the student is active is a benchmark for the level at which the student can perform. The contexts in which students act and learn therefore undergo expansion. In the 1st and 2nd year, the context is the relatively sheltered environment of the study programme and the projects or research questions used by the department.

In the 3rd year, students usually undertake an internship. The internship is an environment in professional practice that provides much less protection and is already part of that complex professional practice. In the 4th year, with the minor+ and graduation, the complexity grows to the pursued, realistic level of complex professional practice, with all its regulated – and especially its unregulated – circumstances, parties, influences and calamities.

*An HP student is encouraged to perform in a professional context that is as complex as possible.*

### 2. Self-directed learning ability

The student's **self-directed learning ability** – the extent to which students give themselves and their own learning process direction and demonstrate this – is the second important benchmark for the level at which the student has mastered the five competences. This ability includes being enterprising in their own actions and thinking, learning to identify gaps in knowledge and overcome them and taking on issues without being asked to do so.

*HP students are expected to have developed considerable self-directed learning ability and the ability to teach themselves; the study programme will coach them in this.*

### 3. Innovative character and multidisciplinary collaboration

The **content** of learning, the creation of professional products, is determined to a great extent by the student's activities. If the approach the student has taken is 'reliable' and 'valid' for the case, the approach and the purpose statement, there will be relative certainty that the delivered product actually has value. Obviously, the client will be able to assess or will have to assess (possibly with others) which value this product has for the complex issue. A lecturer and/or coach and an assessor must be able to:

- assess the way in which the solution to the problem has come about and
- assess the learning process the student has gone through in the process.

Details about the concept of learning to innovate can be found in the Guide to Graduation and Final Level (Education & Quality). A distinction is made in this guide between the following levels:

- Improve
- Change
- Innovate
- Surprise

*Improve* is the minimum final level for graduating as a University of Applied Sciences Bachelor.

In the honours programme, *Innovate* ('Learning to Innovate') is the minimum expected and we prefer *Surprise!*

It is up to the students to make a reasonable case for these qualifications for their end product and learning process by means of evidence in their portfolio.

*HP students are expected to make use of methods in order to reliably solve complex problems and/or provide advice; HP students are also expected to be able to explain themselves methodically.*

The way in which **multi/inter/transdisciplinary** is interpreted depends on how it occurs in the professional matters of the professional practice in question. Multidisciplinary collaboration can certainly *not* solely be taken to mean 'contributing my knowledge to this process'. Making use of each other's disciplinary knowledge, acquiring new knowledge if necessary and participating in talks about possibilities and impossibilities of what the other disciplines could contribute to a problem will sharpen students' skills. Their professional practice demands these skills. For that reason, it is necessary for students to develop themselves in the entire competence profile in as complex an environment as possible and to check their level in the honours programme. Multi-disciplinarity is indispensable in today's changing professional practice. The fact that we encourage students in this way and teach them to work this way during their studies is of great added value.

## 1. Innovation driven

**Role:** Innovator  
**Domain:** Professional practice  
**Specification:** Innovation and research

### Competence

In contributing to the development of an innovative professional product, the student shows an enquiring attitude and identifies and exploits opportunities to introduce innovations into professional practice.

### Context

In working life we come up against stubborn problems, problems for which there are no ready-made solutions. There can be various reasons for this: the complexity of the issue, a lack of sufficient, wide-ranging and up-to-date expertise, and sometimes simply the speed at which developments take place. In such situations innovative capacity is needed to produce creative solutions.

As an innovator, you recognise this complexity and experience it as an opportunity, as a challenge to reflect on and discuss potential solutions with professional colleagues from your own and other disciplines. You dare to put your neck on the line and share your ideas with others. You know how important a solution is and also that it is no good trying to avoid difficult situations. You investigate the problem using your own particular expertise, always looking for ways to uncover new insights, for example by combining existing concepts to create new solutions. You are bold and decisive and as an innovator you are enterprising and pro-active. You actively look for opportunities, know how to turn them into effective actions, and experiment with new methods and scenarios – always working from a well informed and well thought-through vision. Your insight, attitude and work are valued. You are increasingly involved in innovation. You notice that you can be an equal and critical discussion partner.

### To

Contribute to innovation

### You must

1. be pro-active and resourceful in complex professional situations;
2. investigate problems and potential solutions;
3. be bold and dare to experiment;
4. be creative when looking at both the issue and the solution

### So that

Your innovation-driven approach leads to the development of innovative professional products.

### Behavioural indicators

*Being able to act in an enterprising way in complex professional situations*

- You think and act proactively. You show initiative and do not wait for others; you go and investigate. You come up with possible innovative ideas and solutions of your own accord.
- You are decisive. You familiarise yourself with the situation and take quick, well-considered and reasoned decisions about which steps are necessary.
- You are able to convert opportunities into targeted actions. You are able to identify effective routes to achieve goals.

*Exploring the problem and possible solution strategies*

- You prefer to explore *other* ideas as well as traditional methods because there is evidence that the traditional methods no longer suffice
- You come up with *new* perspectives on problems
- You translate developments and trends in your own area of expertise into future scenarios.
- You make responsible use of relevant practical research methods and techniques



### *Demonstrating daring and courage to experiment*

- You experiment
- You take action, even if the outcome is uncertain
- You dare to stick your neck out; you don't avoid risks

### *Looking creatively at both the problem and the solution*

- You demonstrate the ability to depart from the existing conceptual framework
- You demonstrate that you can make use of approaches from other disciplines to come up with new findings and combinations of solution strategies
- You show that you can think out-of-the-box
- You demonstrate originality, "playfulness" and ingenuity
- You come up with new scenarios if circumstances change
- You are able to think of several solutions, approaches or perspectives for a problem that are unexpected and that bring solutions closer.

## 2. Demand driven

**Role:** Critical observer  
**Domain:** Professional practice  
**Specification:** Awareness of the environment

### Competence

In working innovatively, the student demonstrates an awareness of the professional environment in which he or she operates and identifies opportunities to introduce innovations into professional practice.

### Context

As a developing professional you will learn as much as you can about working practice. You will follow developments in your field. You are interested in why certain developments take place and what forces drive them, enabling you to place trends and developments in practice within a broader context. You notice that this allows you to identify cause and effect relationships more easily. You also see that certainties are fast disappearing. You realise that change is sometimes so rapid it makes tasks more complex, raising the bar for professionals.

At the same time, you see great potential in this dynamic environment and actively seek opportunities to contribute, with others, to making a difference. You want to make a worthwhile contribution to a social issue. You explore the possibilities and discuss these with relevant stakeholders and other groups, but without jumping straight to the solution. You show your worth as a well-informed and equal discussion partner. Your preparation has given you a thorough grounding in the dynamics of the situation and you can explain and justify why you think the situation is promising. At the same time, you listen closely to what your discussion partners say. You maintain a dialogue and make sure the problem is clearly defined by asking critical questions of the client and other stakeholders, equipping you to assess the context in even greater depth. You know this exploratory phase is essential if you are going to help deliver feasible solutions or, if necessary, come up with good arguments for abandoning them.

### To

Cultivate an awareness of what is going on around you, both generally and in innovative professional practice in particular,

### You must

1. be aware of your environment
2. identify and describe issues relevant to professional practice
3. be able to translate theory into practical action

### So that

Your analysis of the situation leads to the identification of issues recognised as important to professional practice, and practical steps can be taken towards solving them.

### Behavioural indicators

#### *Demonstrating awareness of surroundings – social context*

- You know or explore the trends and developments in a wider context than your own area of expertise and you are able to connect their significance to the problems you are working on
- You are able to see further than the end of your nose; you see changes coming (earlier than others) and anticipate them
- You look actively for practical situations that might provide new evidence and you make use of them in discussions.
- You see opportunities / chances and make use of them
- You recognise that external factors affect or may affect the problems you are working on
- You demonstrate social engagement and you can account for your professional actions



*Being able to identify and specify questions relevant to the profession*

- You investigate the problem at hand in dialogue with the client and other relevant stakeholders
- You delve more deeply into the definition of the problem outlined; is this really the problem, is more preliminary research needed, will that lead to a different definition of the problem?
- You explore what is already known about the problem; you are able to edit it and present it
- You are able to make the question explicit and adjust it
- You demonstrate knowledge of the social climate that plays a role in finding and accepting solutions

*The ability to convert solutions into practical applications*

- You come up with unexpected and feasible solutions
- You are able to convert solutions discovered through a combination of knowledge and experience of various areas of expertise into practical results

### 3. Collaborative working

**Role:** Team player  
**Domain:** Innovative professional practice  
**Specification:** Communication and collaborative working

#### Competence

In participating in innovative processes, the student becomes a team player who can draw on communicative, collaborative and networking skills to work effectively and efficiently with other professionals to achieve results.

#### Context

Working effectively in a team on solutions to real problems demands a broad range of competences. In effect, they are tools that enable you to understand the innovative context and make you an equal discussion partner. Innovative professionals are real team players; they learn from each other and share ideas.

Learning and working in real-life situations is a social process in which cooperating and networking with others is essential. Not only does it spread knowledge and experience, but it gets people more involved. As a team player you know how important collaborative working is. You are not out to 'steal the limelight'. The real value of collaborative working is that you can fill in each other's ideas, 'spar' with each other, discuss your ideas and suggestions for strategies and solutions, and scrutinise them critically – to say nothing of the added value of being open to possibilities for giving and receiving feedback. Effective professional communication prevents any unnecessary 'noise' from clouding the collaborative working process.

#### To

Work effectively with others on improvements, new developments and innovations

#### You must

1. be willing to work with others and let shared goals take precedence over individual ones
2. contribute to developing a network of experts and make strategic use of this network
3. make correct and well-timed use of a variety of communication skills

#### So that

Team players with complementary personal and professional skills can work together and communicate with each other during a development or innovation process.

#### Behavioural elements

*Being prepared to collaborate and have general goals prevail over individual goals*

- You align yourself with the common goals that arise through looking for new answers to problems at hand.
- You acknowledge that co-creation from professional disciplines contributes to arriving at innovative solutions
- You look for opportunities and ways to work cooperatively on answers to problems
- You are able to work in an interdisciplinary/trans-disciplinary context; i.e. you work closely with people from other areas of expertise by making constructive contributions and gaining recognition for your own area of expertise
- You contribute to the best possible alignment between contributing your own knowledge, experience and qualities and that of team members.
- You put the interests of the team above your own personal interests and you hold your fellow team members accountable for their behaviour and responsibility. You are also accountable yourself
- You are capable of making concessions in order to arrive at a common goal or result. You are able to substantiate these concessions

*Being able to make a contribution to the development of a network of experts and able to consult this network in a targeted fashion.*

- You build up a functional network
- You use networks in a targeted fashion

*Being able to make use of a variety of communication skills in the right way and at the right moment.*

- You kindle enthusiasm and stimulate others
- You have effective and efficient discussions
- You share your work with others
- You contribute constructively to the collaboration

## 4. Interactive learning

**Role:** Learning  
**Domain:** Communities of practice in innovative professional practice  
**Specification:** Interactive learning

### Competence

In guiding his or her further professional development, the student acknowledges the need for lifelong learning and works to gain the necessary learning skills.

### Context

The world of work is changing rapidly. Many different demands will be made of you and you run the risk of not keeping pace with events. Education faces the same problem. Despite doing our best to keep your vocational course as up-to-date as possible, it is not always possible to cover the latest developments. This means you have to prepare yourself for work in a rapidly changing professional environment. You will not just be expected to solve problems you have prepared for in your degree and which you know well enough to be able to implement real solutions; you will also encounter problems that are new to you, problems that cannot be solved using current know-how. These new problems may require new knowledge, knowledge yet to be acquired and new contexts within which existing knowledge has to be used in different ways.

You will also increasingly collaborate with people qualified in other subjects. In such a working and learning setting you will be challenged to learn with and from each other, actively, effectively and focused on getting results. As you work jointly in this innovative process, your desire to learn will often come from within – you come across problems you really want to solve. This makes you the one with a desire to learn ‘something’, or even to ‘unlearn’ something.

The complexity of the situation does not scare you. You see a challenge, and you take it up. You throw yourself into it, and don’t give up. You know you will regularly hit a wall and have to pick yourself up again – but you will soon discover that you are learning more than you thought possible, that what at first seemed a confusing jumble now makes sense. You are much more capable of seeing the big picture.

### To

Learn from and with each other

### You must

1. show self-directed learning ability
2. be willing to learn in varied and challenging settings
3. be able to reflect on the effectiveness of your learning goal, method and result

### So that

You are capable of guiding the further development of your learning capacity.

### Behavioural indicators

#### *Demonstrating self-directing learning ability*

- You give your own learning process substance and direction; in other words, you are able to set yourself developmental and learning goals and act accordingly.

#### *Readiness and a will to learn in various challenging settings*

- You reflect on your own actions and naturally ask others for feedback; you weigh up tips for improving them and then apply them immediately and effectively
- You are aware of how your personal standards and values affect your actions and you demonstrate a willingness to discuss them
- You can be held to account for your actions
- You are prepared to change your ways

- You surrender obsolete knowledge if there are good arguments for doing so
- You have the courage to push back your own boundaries in order to develop personally and professionally

*The ability to reflect on the effectiveness of your professional actions*

- You demonstrate the ability to reflect and you are able to analyse your own actions in terms of
  - content
  - approach
  - group dynamics – this might include the actions of all those involved
  - social and ethical considerations when coming up with new solutions
  - your own development with regard to the points above
- You have learned what your strengths and weaknesses are (or gained a better understanding of them) and you are able to make improvements to both

## 5. Knowledge creation

**Role:** Knowledge producer  
**Domain:** Innovative professional practice  
**Specification:** Knowledge creation

### Competence

In continually improving his or her knowledge and keeping up to date, the student not only learns within a formal context (like school), but also expands his or her expertise by learning in a workplace setting.

### Context

With the rapid development of new information technologies, knowledge is expanding at an increasing rate and is available virtually on demand, and new knowledge can be disseminated just as fast. It is no longer enough to know your facts and know how to apply them. The knowledge you need most in an innovation setting is often called 'broad knowledge'. It is all about knowing the causes of many different phenomena, how things work, and understanding principles and processes (knowing who can provide ideas or specific know-how). This is particularly important because factual knowledge can become outdated (especially concrete findings), whereas knowledge of first principles (underlying these findings) does not date so quickly.

You are expected to develop a 'what if...' approach to learning. This means that you dare to ask critical questions about cause and effect. You learn to comprehend the connections and patterns in what happens in professional practice, but also to have a critical, enquiring and learning attitude. You want to uncover these cause-effect relationships and are a critical user of knowledge. Above all, you measure the value of a theory by its usefulness in solving problems you encounter in your work. You do not blindly follow any particular set of ideas. You find out, working with and in dialogue with other professionals, whether something will work and how it actually works in practice. In the process, you learn how to combine your knowledge and experience with those of others and discover what works, creating new knowledge which can be put to use in professional practice. In addition, you are able to critically assess what the 'active ingredients' are, discovering the value of the chosen approach and the driving principles (which determine how it works). You quickly learn to play with your knowledge. You discover that theories and ideas from other disciplines can also be useful or made suitable for another context. You will also discover that knowledge you acquired for another purpose can also be of practical use in your work. In short, you discover, experiment, apply your knowledge, test how it works, and so generate new knowledge. This is officially called 'productive learning' and 'far transfer'.

You realise how important it is to share knowledge with others. You are also aware that others have knowledge you can benefit from. And so you look for effective and efficient ways to find the knowledge and experience others are willing to share or exchange. You already know how ICT quickly and easily opens doors to a rich knowledge environment. Social media such as Web 2.0 will become an increasingly useful platform for staying informed and sharing recently acquired new knowledge.

### To

Continually work on growing your knowledge within an innovative learning environment

### You must

1. be able to learn within an application context
2. be able to use knowledge and skills at various levels of application and contexts
3. have the ability to share and access knowledge

### So that

You can make a real contribution to furthering knowledge.

### **Behavioural elements**

*Being able to develop knowledge within an application context*

- You are able to make use of other people's knowledge and practical experience to strengthen your own so that you develop new knowledge that takes the professional practice further; you innovate
- You are open to the contribution of other people's expertise and you actively invite them to contribute
- You build on existing knowledge and are able to connect the newly developed knowledge to the 'old'

*Being able to apply knowledge and skills at various levels and in various contexts*

- You make use of knowledge from different areas of expertise in order to discover patterns in problems
- You apply the knowledge and information thus acquired to develop or design new solutions
- You demonstrate awareness of the effect of social, economic, technical, ethical and/or psychological factors that could help to find the answers to problems you are working on

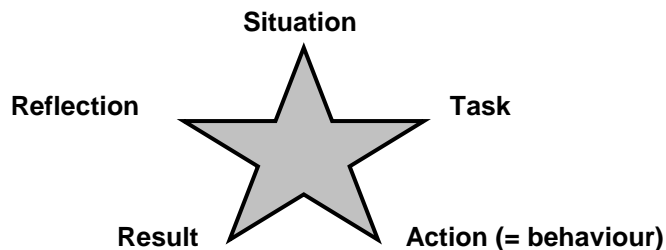
*The ability to share and access knowledge*

- You actively share the knowledge and experience you have gained in practice with other people
- You actively look for new knowledge and for effective ways of accessing and sharing new knowledge. You do this in a way that is appropriate for your professional practice and you are able to substantiate your choices in this matter
- You look for connections that go beyond the shared knowledge and experience of team members and help them to understand these connections

## Appendix: The STARR method

The interview with your assessors during the final assessment will be structured according to the STARR method. This method should also be followed when you compile your portfolio: for each competence prepare at least 1 STARR description to prove that you possess the skill set for this competence. The STARR method has been specially developed to test whether someone is proficient in certain competences or behavioural skills.

The letters STARR stand for:



The method helps you to describe earlier behaviour (for example during your Minor+ / I-Lab period). You do this in your portfolio, but the interview with your assessors in the final assessment will also be based on this method. This means that you may be asked about a *new* situation / STARR description during the final assessment. Be prepared for this!

Here are some examples that may help you with the descriptions:

### Situation:

- Choose one or two critical professional situations for each competence and describe them. These might be situations you encountered during your internship, in your graduation project, doing volunteer work, or ...
- What was the situation / what was the context in which you acted?

### Task:

- What was your task? Which tasks did you perform?
  - What was your role? What was expected of you?
  - What did you want to achieve? What did you expect of yourself in this situation?
- Please note: task and role are not the same!

### Action:

- What did you do? What action did you take to perform your task(s) well?
- What did you consider in order to tackle the tasks the way you did?
- What part did you play in finding answers / solutions?

### Result:

- What did your approach produce? Did your approach work?
- How do you assess the result in the light of the assignment or the problem you were working on?
- Possibly: which other perspective is important when assessing the result? Think about costs, environmental aspects, ethical considerations...

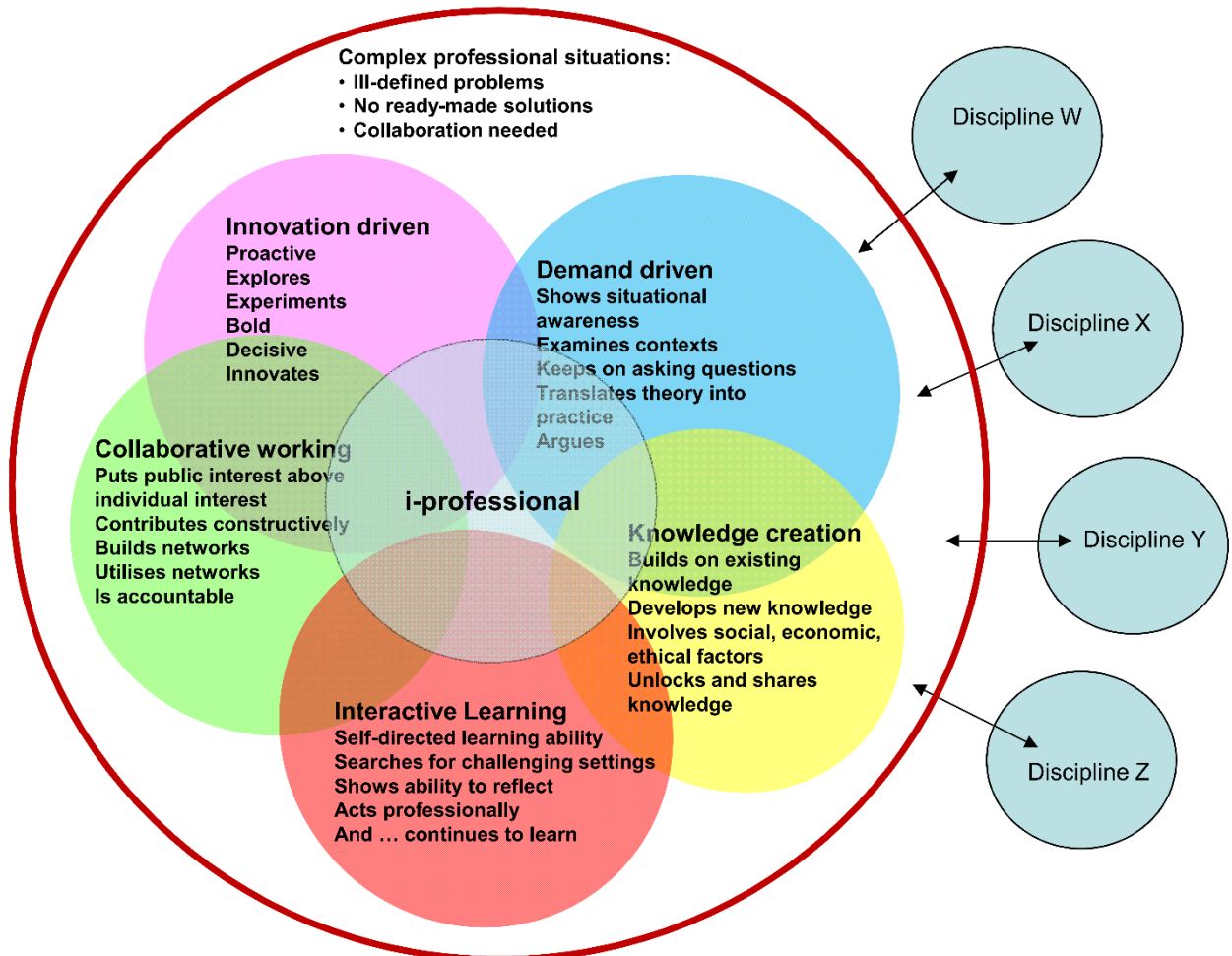
### Reflection: on content, the process and your own development

- Which of your behaviours / convictions / standards / values contributed positively to the situation / task / action / result?
- Which of your behaviours / convictions / standards / values gave you a problem in the situation / task / action / result?
- What have you learned / what surprised you / what have you discovered about yourself in this situation / task / action / result?



Professional behavior – Innovative working

## The Relationship between Competences for Innovative Working and Different Disciplines



201612 HP team

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