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Guiding Tool 1

Coherent Admission Framework

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1. Introduction

The [Mastermind Europe](#) project¹ addresses the issue of increasing diversity among the applicants to master's programmes. It develops a Toolkit (with an Introductory Report) to assist master's coordinators who want to improve their admission process and offers services to support master's coordinators in the process.

The Introductory Report "Changing paradigms in admission to master's programmes in Europe"² describes how Master's programmes are becoming increasingly diverse in terms of their objectives and functions as well as in terms of the background of the applicant students. The report shows how and why admission, based on the "recognition of diplomas", may need to evolve into an admission, based on "assessment of competencies". In plain English: Master's coordinators must find new ways to answer the key question: "Does this student have what it takes to be successful in our programme?"

The tools in the toolkit help master's programmes to analyse and diagnose weaknesses in their admission and implement improvements. These tools work at two levels: A) at the level of the admissions' process with its core elements, and B) in the connection between admission and its institutional and educational context.

The set-up of this Guiding Tool is as follows: after this short introduction, the main focus is on the practical tools and their use in chapters 2 and 3. Chapter 2 "Internally Coherent Admission Framework" focuses on the admission's process itself: the key questions, categories of potentially relevant criteria and how these can be brought together. Chapter 3 "Contextually Coherent Admission Framework" focuses on the coherence of the admission process with its institutional and educational context. After that, Chapter 4 offers further information for readers/users who want to explore the subject more in-depth, as well as some forms and a reading list.

¹ A Erasmus+ Strategic Partnership project that has received funding from the European Union.

² See also Kouwenaar, K. (2015).

2. The Internally Coherent Admission Framework

In essence, the double challenges of Master's admission is:

- a) to get an optimal number of applicants and
- b) to get an optimal number of admitted students who actually enrol.

What is optimal will vary from programme to programme. Some master's programmes urgently want more (suitable) international applicants; others already have many more applicants than they can handle; others need to improve the ratio of applicants – admitted students – enrolled students. This double challenge is not particular for selective admissions systems ("only the best"); it also applies – although differently – and in open systems (in which all 'qualified applicants' have a right of admission).

NB What 'optimal' is, may also depend on the perspective of the stakeholder: programme coordinators may hold opinions that differ from academic teachers, let alone the applicant students.

The Mastermind Europe Toolkit is designed to help meet this double challenge. As a bonus, master's coordinators may find that using the Toolkit also helps *) to bring their programme more in line with the National Qualification Framework and the Tuning methodology and *) to conform to the "Revised European Standards and Guidelines for Quality Assurance in the Europe HE Area (May 2015)³. More generally, the precise articulation of all competencies (including knowledge) that students must have at the outset of their master's programme, is a very valuable asset to any programme.

The tools

We have developed an Internally Coherent Admission Framework that allows master's programmes to analyse the current elements in their admission process in terms of the criteria and levels that are (often implicitly) lying underneath. The framework helps to distinguish between the questions: "What do applicants have to be good at?", "How good do they have to be at it?" and "How can it be established in the admission process that they actually are?"⁴. It helps to disentangle "what you are looking at" in admission from "what you are looking for".

³ See the [EHEA website](#), the [Tuning website](#), and the [ENQA website](#).

⁴ In Ch 3 "More ..." we further explore what "good" may mean in terms of the purpose of admission within and beyond the direct objective of successful graduation.

The framework does so for the four main broad categories of criteria: a) Subject-Related Knowledge & Skills, b) General Academic Competencies, c) Personal Competencies & Skills⁵, and d) Language requirements.

We intend the framework to be used at the level of a specific master's programme: by filling in the empty cells in the Tool. If necessary, we can provide expert advice or guidance with it.

The Coherent Admission Framework: the Matrix 1.0

How do you a) know (= assessment mechanisms) if b) students are good enough (= norms-levels) in c) the things they need to be good at.				
Or, in logical order: 1) criteria, 2) norms/levels, 3) assessment mechanisms ⁶ with 4) testing scores				
	1 Criteria	2 Norms/ levels	3 Assessment mechanisms	4 Assessment scores
	What you are looking for		What you are looking at	
Subject-Related Knowledge & Skills (Guiding tool 2)				
General Academic Competencies (Guiding tool 3)				
Personal Competencies & Traits (Guiding tool 4)				
Language competence (Guiding tool 5)				

Figure 1 Coherent Admission Matrix

⁵ These three categories are very similar to those developed by the OECD in the context of the [PIAAC project](#) (OECD 2013): Professional & technical competencies, Generic cognitive competencies, and Socio-Emotional competencies.

⁶ "Testing mechanism" is used in all Mastermind Europe documents in a very broad and non-judgemental way. It includes all and any mechanisms that master's programmes actually use in the admission process – even mechanisms that many observers and researchers would disqualify as unreliable or even perverting. It is precisely part of our objective to stimulate careful reassessment of these mechanisms.

For each of these four categories, a separate Guiding Tool has been developed: one for Subject-Related Knowledge & Skills, one for General Academic Competencies, for Personal Characteristics & Traits, and one for Language Requirements. Each Guiding Tool is built on the overall Coherent Admission Framework (above) and the Chain of Steps to Change (below). Each offers some practical tools (Quick & Dirty approach, Lists of Steps and Questions) and examples.

In addition, we pose some questions to help to clarify the purpose of admission: Is successful admission merely defined by successful graduation, or does it also require a positive contribution to the class, or aim for success in the subsequent profession? This Guiding Tool also introduces the concept of 'tasks/roles' as an instrument to integrate the three categories of Subject-Related Knowledge & Skills, General Academic Competencies, and Personal Competencies & Traits in a meaningful way.

As part of the 'reading guide' through this GT we need to clarify that we don't offer simple ticking box guiding tools. The analytical frameworks don't provide ready-made solutions but are intended to help master's coordinators to make better informed, more explicit, but still qualitative and subjective decisions about criteria, benchmarks and assessment mechanisms in their admissions procedure.

Important message: the Mastermind Europe Forms, Matrices, and Tables are aids for the analysis of your admission practice; they are not suitable as aids for the assessment of individual applicants!

Chain of Steps to Change

The Coherent Admission Framework works as a logical sequence of Steps to Change. The entry point depends on the starting position of the master's programme(s) concerned. Many master's programmes already use some testing mechanisms beyond mere recognition of a diploma. They take, for example, the GPA, a Transcript of Records, or a Motivation letter into account. For those programmes, the starting point is the far left of the chain: the full chain approach.

In some other cases, the current master's admission may still be wholly dependent on the recognition of the preceding diploma. Often, the national legislation of regulations play an important role. In these cases, the starting point is the second step from the left of the chain: the Step-in approach.

As with the framework, we intend this Chain of Steps to Change model to be used at master's programme level: by taking the consecutive steps in the model. If necessary, we can provide expert advice or guidance with it.

Full chain approach

The full chain approach starts with the current 'admission requirements' (Diploma, Transcript of Records/Diploma Supplement, GPA, Motivation statement, Reference letter, etc.) in the master's programme admission. It helps to identify these current elements in terms of the three key questions. More of the current admission requirements will be in the category of 'testing mechanism' than in 'criteria' or 'level. This analysis shows if the underlying criteria and levels are clear enough (or not) for the academic & administrators of the programme and, more importantly, for the prospective students. It helps academics and administrators to decide if they are satisfied with these underlying criteria and levels, or feel the need to add – or change (or delete) – some criteria or levels. This may help the programme to make its admission criteria and levels a) better and b) more

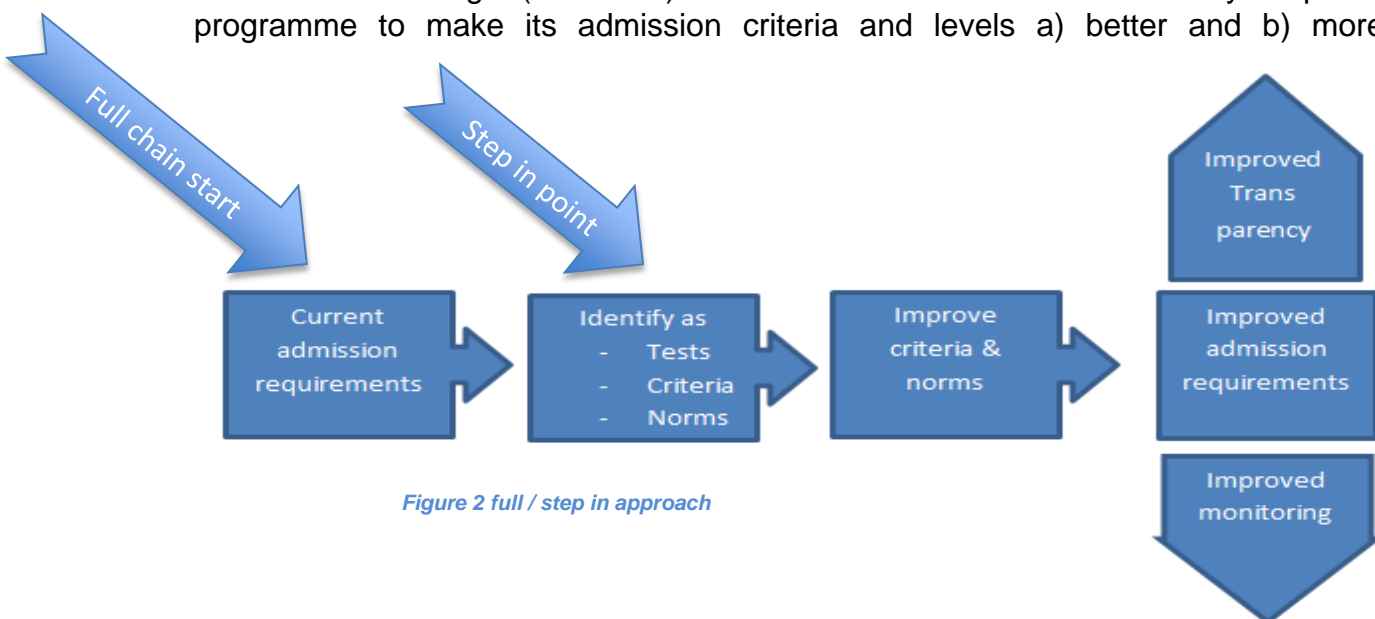


Figure 2 full / step in approach

transparent⁷. Equally important, it helps monitoring over the years: which criteria and levels have better predictive value for student success – which are warning signals for the need for additional care for some students? As we go to the right-hand side the chain, it helps to re-examine the testing mechanisms used to establish that applicants meet the criteria and levels: that applicants are good enough in the things they need to be good in.

Furthermore, it helps to improve information to prospective students – on the website, in prospectuses, on fairs, etc.

Step-in approach

The Step-in approach does not start from the current 'admission requirements', but at the second block in the chain. It is intended for cases where admission is still wholly dependent on Diploma-recognition. It starts with the 'logical'

⁷ Again: transparency may mean different things for different stakeholders.

starting point of the conceptual frameworks of criteria ('what do students have to be good in?') and levels ('how good do students have to be in it?'). From there, it helps to identify the most appropriate testing mechanisms ('that show if students are actually good enough in it').

In this way, it helps to make the information for prospective students more transparent – on the website, in prospectuses, on fairs, etc. – and it helps to identify the elements in the admission process that are suitable for monitoring over the years, which criteria and levels have in fact better predictive value for student success – or the need for additional care for some students.

Coherence and trade-offs between criteria

The criteria⁸ are not separate, only distinct. One testing mechanism (like the Transcript of Records) may be used to assess various criteria (such as subject knowledge and academic competency). There may be links between criteria in these categories: 'strong' scores on one criterion may counterbalance against 'weaker' scores on another criterion. For the most important criteria, Master's programmes may find it useful to identify both an absolutely minimal level and an optimal higher level. Higher scores can be used to counterbalance weaker scores on other criteria.

In addition, master's programmes may find it helpful to use an overarching concept to link the three categories of criteria together. One such overarching concept is that of task/roles⁹: defining what task/roles students need to be able to perform already at the outset of the master's programme may help to identify connections between subject competence, academic competence and personal competence.

Transparency

'Transparency' is used as a container concept in our project. It is about making sure that potential applicant students understand what you are looking for and how you organise your admission process. But also about making sure that the students understand what your master's programme itself is about and – very important – if it is suited to their talents and ambitions. If your programme works with agents or other intermediaries, it helps bona fide agents to recruit more suitable students and sieve out the unsuitable students for your programme early in the process.

But it also has internal meaning: it refers to the shared understanding of your admission criteria and process among the academics, administrators and coordinators of the programme.

⁸ Subject-related, academic, and personal.

⁹ See Ch3 'More ...' for an explanation of the tasks/roles model.

Monitoring

In principle, there are two approaches to ensuring the quality of the admission process. One is by analysing and reasoning from the basic principles and constructing a sound process. It is constructing a theory and testing it with the facts.

The other is by simply noting what happens and then afterward, look back to analyse what happens. It is collecting the facts and then trying to see patterns in them.

Both have their value and function. Our Guiding Tools are designed to help in both. For either approach, it is essential to collect the data in a systematic way. A sound tracking system allows to relate success and failure to the admission criteria, and can provide a powerful support tool for the improvement of your admission process. Many universities already have units for “institutional research” for such systematic data collection and analysis; admission vs. study success may be just one aspect of the analysis.

Good for what?

Most commonly, the key question: “if students are good enough” is posed and answered in terms of the likelihood of students being able to graduate – within acceptable boundaries. But the likelihood of success after graduation and the contribution in class may also be considerations. In the “More ...” Section of this Guiding Tool, other interpretations of this key question are explored, that look beyond the master's programme and also take a social dimension.

Motivation

The admission process is not a purely mechanical process: the way it is set up has a psychological impact on potential students. It can be set up to motivate or demotivate applicant students. Indeed, some universities create an aura of selectiveness around their programmes to enhance the ‘elite’ feeling among applicants and those who are actually admitted. Some universities promote informal contacts with applicants – and among applicants – as a further mechanism to create bonding of applicants with the university and as a group.

Legal framework

Not all universities in all European countries enjoy the same autonomy in weighing various elements in their admission process. In some countries, the law – or its dominant interpretation – forbids to look at any other element than the degree or diploma. In some countries, such autonomy may vary according to circumstances. In Germany for instance, universities are only allowed to look beyond the degree/diploma when they have more applicants than available places. In almost all European countries, the legal framework for recognition of degree/diplomas is given in the Lisbon Recognition Convention (1997).

Other relevant elements of the legal framework are the need (legally or morally) to have a proper Appeal Code as well as an Ethical code in admission.

Efficiency

Finally, the admission process needs to be efficient from the institution's point of view as well as from the applicants' point of view. Precise articulation of the competencies that students need on day one of the master's programme will make it much easier and efficient to determine if individual applicants meet these criteria. Reduction of the number of less suitable applicants yields further efficiency gains.

Equally important is the efficiency from the applicants' point of view. Too often, programmes ask a wide range of documents to be sent or uploaded, which can be reduced by precise competency articulation. Asking for fewer documents makes the programme less cumbersome, more attractive for applicants.

Some examples of how this works in practice

Below are two detailed examples – in different categories - of how you can use the model at individual programme level.

The examples below are shown here only to explain how the tool works: If master's programme A of university X has identified the GPA as something they want to improve, than the following table shows how they could take the successive steps through the 'Chain of Steps to Change'.

Constructed example for one general academic competency

The GPA	What can you say about it?
We look for a GPA > 3.5	This is a mixture of a testing mechanism (GPA) and a level > 3.5
What criterion is involved	General Academic Competence. No differentiation within the GAC Framework (see GT GAC).
What level is applied	A level within the GPA: >3.5, but not related to GAC framework.
How satisfactory is this practice	Possible answers: We are satisfied, no change. We want to change in some ways; see next rows.
Possible conclusions in terms of articulation of criteria/levels	We need to be more precise about what we want in terms of the GAC framework.
Possible conclusions in terms of choice of testing mechanisms	We need to have better/more triangulation: more different mechanisms to test GAC.
Possible conclusions in terms of transparency	We need to explain better to students what we are looking for.
Possible conclusions in terms of monitoring	We need to include GPA in our student success monitoring: see if the GPA predicts success better than other indicators for GAC.

Figure 3 Example for analysis of the use of GPA for general academic competency.

And if master's programme B of university Y has identified the Motivation statement as something they want to reconsider, than the following table shows how they could take the successive steps through the 'Chain of Steps to Change'.

Constructed example for one personal competency

The Motivation statement	What can you say about it?
One professor reads all motivation statements	This is a subjective and qualitative testing mechanism.
What criterion is involved	That may be unclear: to the university, to the students, even to the professor.
What level is applied	That may be unclear: to the university, to the students, even to the professor.
How satisfactory is this practice	Possible answers: We are satisfied, no change. We want to change in some ways; see next rows.
Possible conclusions in terms of articulation of criteria/levels	We need to explain what PCTs we look for in the Motivation statement, using the PCT framework (see GT PCT). We feel unable to articulate precisely what we are looking for.
Possible conclusions in terms of choice of testing mechanisms	We improve the use of Motivation Statements, e.g. by more precise articulation (in the PCT framework) and/or assessment by more than one professor and/or assessment on the basis of an assessment protocol. We stop it because we feel unable to articulate precisely what we are looking for. We stop it because, although we do know what PCT we are looking for, we feel that Motivation Statements aren't a sound and reliable way to test if the students have them.
Possible conclusions in terms of transparency	We need to explain better to students what we are looking for.
Possible conclusions in terms of monitoring	We need to include Motivation Statements in our student success monitoring: see if it predicts success better than other indicators for PCT.

Figure 4 Example for analysis of the use of a motivation statement for personal competencies & traits

More examples are given in the specific Guiding Tools.

3. Contextually Coherent Admission Framework

Coherence in admission is relevant not only in what regards the key questions and core categories of what students need to be good at, how good they need to be at it, and how the Master's programme can assess if they are.

Coherence is also desirable between this internally Coherent Admission Framework and the institutional and educational context of the admission process.

Two dimensions of the context around admissions

Admission of students to master's programmes is not just a matter of applying the correct criteria and testing mechanisms. Admission to master's programmes takes place in a wider context with at least two dimensions: that of the whole cycle of contact between student and university, and that of the whole lifecycle of a master's programme. The Admission process can be seen as the linking pin between these two, as is visualised in this graph.

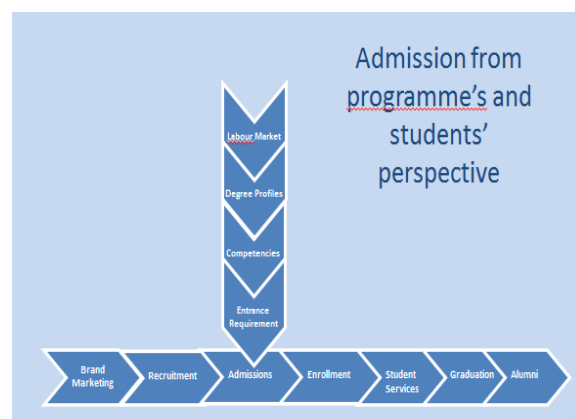


Figure 5 Two dimensions of context

The whole chain of contacts between graduate students and the universities has been the subject of much attention and work within NAGAP¹⁰, which has i.a. resulted in this graph.



Figure 6 NAGAP Graduate Enrolment Management chain

A Tool for the Student – University cycle

In the context of this Guiding Tool for a Coherent Admission Framework, we offer one tool to critically examine and improve admission as part of the contacts

¹⁰ NAGAP: Association for Graduate enrollment management (formerly The National Association of Graduate Admissions Professionals), see <http://www.nagap.org/>.

between student and university and another tool to critically examine and improve admission as part of the lifecycle of the master's programme: the master's lifecycle.

Both basically consist of a visual aid to show the correlation – as it is and as it might be improved – between the various elements: of the contact cycle and of the master's life cycle. In its simplest form, it is a correlation between just two elements.

For example, within the contact cycle, the correlation between Selection/admission and Alumni relations can be filled out in a box like this.

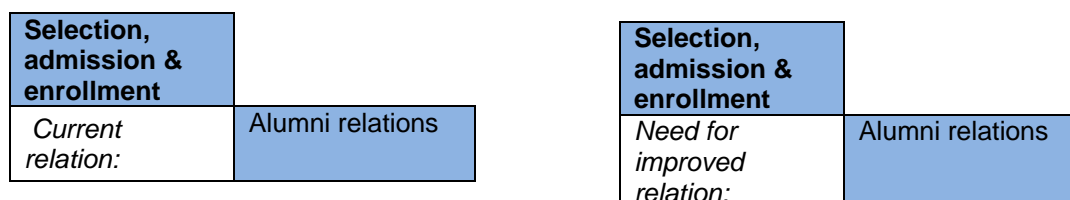


Figure 7 Current and envisaged connection between two elements of institutional context

If we do this for all possible correlations and bring them together, we get a matrix, as a tool to analyse current and desirable connections, feedback and feed-forward loops between the various steps in the cycle of contact between the student and the university. In each empty cell of the matrix, the university – or master's programme or set of coherent master's programmes – can fill in if and how these steps are connected and if/how changes to these connections can improve a) admissions, b) the contribution of admissions to the whole cycle and thus c) to the whole cycle of contact between student and university. Here, once more, different actors/stakeholders in the chain of contacts with the student may have varying perspectives. Units in the organisational structure of the university may not be interested in a holistic chain approach, but only in their own link in the chain.

Recruitment	Selection, admission & enrolment	Financial aid, grants	New students services	Student services / engagement	Graduation / employment services	Alumni relations	
							Enrolment planning
							Recruitment
							Selection, admission & enrolment
							Financial aid, grants
							New students services
							Student services & engagement
							Graduation / employment services

Figure 8 Matrix to analyse current and desired connections

A Tool for the Master's programme cycle

In a similar vein, we offer a second tool to critically examine and improve admission as part of the life cycle of a master's programme. Ideally, master's programmes are designed in response to a need for graduates of a particular profile: this applies to programmes tailored to the labour market outside the university, but equally to research oriented programmes. From the external need we can proceed to the Degree Profile, with the competencies involved. These may be translated into the specific Intended Learning Outcomes. From Learning Outcomes we may step back to the Curriculum, from where we end up at the beginning: the admission process and the admission requirements.

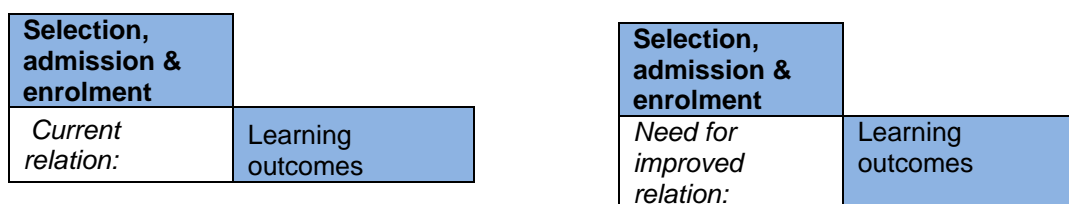


Figure 9 Current and envisaged connection between two elements of educational context

The matrix below is a tool to analyse current and desirable connections, feedback and feed-forward loops between the various steps in the life cycle of any master's programme. In each empty cell of the matrix, one can fill in for a particular master's programme what the connections are between these steps and if/how they can be improved.

External need	Degree profile & competencies	Learning outcomes	Curriculum	Admission	
					External need
					Degree profile & competencies
					Learning outcomes
					Curriculum
					Admission

Figure 10 Matrix to analyse current and desired connections

4. More: elaboration and further references

Coherent admission framework

A search on “Google Scholar” or the “Web of Science” for the concept “Coherent admission” will not yield any hits that relate to admission to master’s programmes at higher education institutions. It is a concept that is coined in the Mastermind Europe project.

The term Coherent Admission Framework (CAF) is introduced here for an admission system which brings together the various elements introduced in the Introduction “Paradigm Shift”, the three categorical Guiding Tools (on Subject-related Knowledge & Skills, on General Academic Competencies and on Personal Competencies & Traits), and the relevant language requirements into one coherent framework. The CAF also fulfils basic conditions of transparency and validity and is embedded in the general framework of the master’s programme and the student’s experience at the university.

Although this Guiding Tool for a Coherent Admission Framework and other documents in the Mastermind Europe project refer regularly to the term ‘competency’, it is not a project about Competency-Based Education. It develops tools for academic master’s directors to decide if and how they want to incorporate elements of general academic competencies and personal competencies and traits in their admissions criteria.

NB The concept of a Coherent Admission Framework has been developed in the context of the Mastermind Europe project, but may be used more broadly in university admissions.

The concept of a Coherent Admission Framework differs from the related Holistic Admission concept often used by American universities and the American professional organisations in this field: NAGAP (Association for Graduate Enrolment Management) and CGS (Council of Graduate Schools). Holistic Admission (CGS 2012) refers on the one hand to the integration of admission into the much broader chain of the various administrative steps and student oriented services from branch marketing and recruitment at the front end to graduation, transition to work and Alumni services on the rear end. On the other hand, Holistic Admission refers to the notion that admission is not a mechanistic procedure – like ticking boxes – but a process in which quantifiable and subjective elements are taken together towards a final decision: to admit or not to admit. There is clearly overlap between the two concepts, but CAF addresses Master’s admission against the historical continental European background of a diploma-recognition rights-based admission. Because of this different background, CAF pays more attention to the clear articulation of the categories of admission criteria.

A Coherent Admission Framework contains a number of elements, some of which were already touched upon above. We can distinguish elements of internal coherence – within the admission process as such; and external coherence – of the

admission process with the wider processes of student services and the master's programme life chain.

NB This Guiding Tool – like all the others – refrains from any normative position. It doesn't make prescriptions or give instructions. Neither does it indicate which answers to the questions are 'better'. Master's programmes differ in too many ways; only the people who are responsible for a master's programmes are able to make decisions which make sense in that context. The Guiding Tool aims to help make clear which issues that need to be addressed – and to help decide that some issues do not have to be addressed.

At the level of the admission process and its core elements

Key questions

The overarching key question – as expressed in the "Introduction to the Guiding Tools: Paradigm Shift" – is: "Does this applicant have 'what it takes' to be successful in our master's programme?" This key question is gradually replacing the previous key question: "Is this applicant's previous education similar or identical enough to our own preceding bachelor's programme?"

Key components in the question are "what it takes" and "to be successful".

To start with the latter, what does "successful" mean?

- Does it merely mean successful (and timely) completion of the programme, successful graduation?
- Does it also mean success after graduation, in the subsequent career? Universities may not want to give guarantees here; but is it alright to admit applicants if you feel that they can make it to graduation, but have serious doubts about their ability to fulfil the roles and tasks that the master's programme prepares for – or even entitles to?

The meaning of "success" in admission

- Successful graduation
- Successful after graduation
- Fit in class – school
- Contribution to class composition

- Does successful completion also include a fit in the class or the school? Can you deny access to an applicant because you have serious fears that s/he would have a significantly negative impact on the atmosphere in the class – or the culture of the school?
- Does it also include a contribution to the diversity sought for in the programme? Formulated negatively: can an applicant be excluded because there are already too many students from one national or cultural or disciplinary background?

The answer to these questions can only be given in the context of specific programmes; but a Coherent Admission Framework supposes that the questions are considered, asked, and answered.

How can we analyse the notion of “what it takes”? The Mastermind Europe project identifies the following 3 key dimensions

1. Which specific elements (competencies) are essential for successful admission to your master’s programme (and why?). E.g. is Mathematics or Group work ability important as an admission requirement?

Or, in plain English: What is it that applicant students need to be good at?

2. Which level of competencies is necessary in those elements that you have identified as crucial for admission to your programme? Beginner – intermediate – advanced? How can you articulate the required level as specifically as possible.

Components of “what it takes”

- What do they have to be good at?
- How good do they have to be at it?
- How do you know that they are?

Or: How good do they actually need to be in it?

3. How can this be measured or tested? Can that be done in an objective way or does it have to be a subjective – or inter-subjective – and qualitative assessment?

Or: How can you determine that they really are¹¹?

Basic categories of criteria: “what do they have to be good at”?

As explained in the “Introduction to the Guiding Tools: Paradigm Shift” (Mastermind Europe 2015 (1)), both literature and praxis suggest that relevant criteria can be grouped in three broad categories. The categories are used to make logical groups and to identify useful assessment and testing mechanisms. The categories are too broad to be viable choices at the level of specific master’s programmes: the right mix of specific requirements needs to be defined at that level.

Bearing that in mind, we identify these categories¹²:

- Subject-Related Knowledge & Skills¹³ (see Guiding Tool 1)

¹¹ Some institutions might want to provide “remedial” courses – possibly on line – for students who don’t meet specific knowledge criteria but show promising potential.

¹² Different from the well-known concept of a) knowledge, b) skills, and c) attitudes/values.

¹³ Note that subject-related skills are taken together with subject-related knowledge

- General Academic Competencies (see Guiding Tool 2)
- Personal Competencies & Traits (see Guiding Tool 3)

Experience shows that most master's coordinators will recognize that very many – if not all – of the specific criteria in all three categories play some role in their programme. The challenge is to determine which specific criteria are relevant enough to be used in the selection and admission process.

This challenge can be considerable, because the whole way of thinking, the vocabulary and the concepts connected with a competencies-based approach to education is often far removed from the field of expertise of academic directors and coordinators of master's programmes and often equally far removed of the daily practice of administrators involved in the admission process.

- Subject-related knowledge and skills
- General Academic competencies
- Personal competencies and characteristics

Task/roles approach to competencies

The model developed by van Merriënboer and Kirschner (Merriënboer 2012) proposes a holistic approach to the design of courses and curriculum aimed at acquiring complex learning. Their model is based on the concept of learning tasks, which are described as “authentic whole-task experiences”. These include case studies, problems, projects etc. To help in achieving these learning tasks, both supportive and procedural information are provided to student, aimed at allowing them to learn to perform non-routine and routine aspects of the task respectively. The routine aspects are also addressed through part-task practices, to help student fully automatize the process. Learning tasks, as described in the Merriënboer and Kirschner model, can be seen as including both tasks and roles: it is not only about the tasks students can perform, it is also about the role they can play. The learning tasks imply both operational (tasks) and relational (role) components.

Learning tasks are the backbone of the model and they are based on real-life professional tasks. The professional needs of graduates of the program dictate the learning tasks and therefore the curriculum of the program. In the Mastermind project, this approach may be taken one step further back (from professional tasks to curriculum to admission) as a concept that can also be useful in the admission process. The question at the heart of the Mastermind concept – does this student have what it takes to be successful in our programme? – thus comes to include the more tangible question: does this student have what it takes to complete the learning tasks/play the required roles. This does not only include the knowledge to perform the first and easiest learning tasks in the curriculum, but also competences and personal traits to perform these first tasks and the subsequent ones.

Van Merriënboer and Kirschner's model is also relevant for the Mastermind project in that it proposes a context-specific holistic design. It opposes itself directly to traditional learning that compartmentalizes and fragments elements needed to accomplish a task. In this model, it is through the accomplishment of the tasks that

students learn the various elements they will need to graduate and be professionally successful. Students and graduates need to use a combination of subject related knowledge & skills, general academic competencies and personal competencies and traits to successfully fulfil specific tasks and roles. Similarly, the Mastermind project aims at designing a holistic admission process. Even though it is important to recognize subject-related knowledge and skills, general academic competencies, and personal competencies and characteristics as distinct elements of the admission process, they should not be considered separately. It is essential to ensure that the admission process integrate all competencies together in a coherent admission framework.

One example from reality

Below, we have taken an actually existing Master's programme to show how this may work in practice for singular programmes. Based on the information on admission in StudyPortal's [Masterportals.eu](https://www.masterportals.eu), we have filled in the Internally Coherent Admission Framework table. This shows to what extent the connection is solid and clear between a) the underlying criteria and levels (i.a. what the admission people are looking for) and b) the assessment & testing mechanisms and passing scores (what the admission people are looking at). Unclear connections – or missing fields in the table – may give the master's coordinator cause to consider some kind of improvement. The sample clearly shows where key questions are left unanswered and/or where the link between “looking at” and “looking for” is missing.

Figure 11 Coherent Admission Matrix for one specific Master's programme

How do you a) know (= assessment mechanisms) if b) students are good enough (= norms-levels) in c) the things they need to be good at.
 Or, in logical order: 1) criteria, 2) norms/levels, 3) assessment mechanisms¹⁴ with 4) testing scores

Example: Master of Science in Geomatics ¹⁵	1 Criteria	2 Norms/ levels	3 Assessment mechanisms	4 Assessment scores
	What you are looking for		What you are looking at	
Subject-Related Knowledge & Skills (Guiding tool 2)	A good university Bachelor's degree	In a main subject closely related to the MSc	Bachelor's degree	Cumulative Grade Point Average (CGPA) of at least 75% Good grades on the key <i>courses</i> (it's not specified what qualifies as a good grade)
General Academic Competencies (Guiding tool 3)	-	-	- Bachelor's degree Describe your hypothetical thesis project - Essay,	Cumulative Grade Point Average
Personal Competencies & Traits (Guiding tool 4)	-	Motivation	-	-
Language competence (Guiding tool 5)	-	-	IELTS TOEFL, CAE	6.5 90 180

¹⁴ "Testing mechanism" is used in all Mastermind Europe documents in a very broad and non-judgemental way. It includes all and any mechanisms that master's programmes actually use in the admission process – even mechanisms that many observers and researchers would disqualify as unreliable or even perverting. It is precisely part of our objective to stimulate careful reassessment of these mechanisms.

¹⁵ The information in this Matrix was derived from:

<http://www.mastersportal.eu/studies/330/geomatics.html?attempt=1#tab:requirement>

Testing and assessment: “How good do they have to be and how do we know that they are?”

Once the question “what do they have to be good at” has been answered, the next questions present themselves. Guiding Tools 1, 2, and 3 contain more detailed information on these questions with regard to 1) Subject-Related Knowledge & Skills, 2) General Academic Competencies, and 3) Personal Competencies & Traits.

Here, we briefly summarize the standardised tests available on the market.

Standardised tests

For subject-related knowledge & skills, universities may have their own exams, especially designed to test master’s applicants (with or without preceding pre-masters or bridging courses). Or, they may want to develop MOOCs that cover the subject required for admission in a specific field.

For general academic competencies, the following tests exist:

- The Graduate Record Examination (GRE), by ETS
- The Graduate Management Admission test (GMAT), by the Graduate Management Admission Council (GMAC)
- The IE Admission test, by the IE Business School Madrid.

More information on these tests, with links to further information, is provided in the separate Guiding Tools.

For personal competencies & traits, the following tests exist:

- The Personality Potential Index
- Other tests will be added as we find them.

Specific mechanisms

In practice, universities and specific master’s programmes use a variety of mechanisms – objective, subjective and intersubjective – to help them answer the key question if applicants “have what it takes” for admission and successful completion.

- Interview (individual or in groups)
- Personal statement by the applicant
- Assessment of extracurricular activities
- Reference letters
- CV
- Essays
- Portfolio assessment
- Entrance exam

How do you know that they “have what it takes”?	
- Interview	- Personal statement
- Extracurricular activities	- Reference letters
- CV	- Portfolio
- Essays	- Entrance exam

These mechanisms all have an element of subjectivity, which is not a bad thing. But there are various ways in which the quality of these mechanisms – both in terms of validity and in terms of transparency – can be enhanced:

- Clear articulation of what the mechanism is used for: if the precise criteria in terms of subject, academic or personal elements are clear, than the use of e.g. the interview or personal statement is more focused.
- Guideline or protocol: a written policy statement on how the mechanism increases the likelihood that it will be used similarly for subsequent cases and by different assessors. We are collecting examples of such guidelines and protocol and will add them to the guideline in the course of the project. Having a Guideline or Protocol doesn't necessarily mean that it has to be publicly available. Public notification that it exists and that there is an internal procedure to safeguard adherence already adds to transparency.
- Multiple assessors: if interviews are conducted by more than one person and personal statements reviewed by more than one person, this will add an intersubjective dimension into the process. Master's programmes may consider to have people from different perspectives involved.

Language proficiency at admission and graduation

Language tests have been among the first admission requirements in addition to the recognition of a Bachelor's degree within European higher education and the reason for this is self-evident. Guiding Tool 5 is devoted to the subject of (English) language proficiency and available tests for this proficiency. As such it is a rather straightforward and unproblematic part of a Coherent Admission Framework for international applicants.

Two specific language related questions may be posed (these will be treated more in-depth in the Guiding Tool on language requirements):

- Are the language requirements at admission sufficiently specific for the master's programme in question? Is the balance between speaking, listening, reading and writing for this specific master's programme 'average' or are there reasons to lay greater or less emphasis on one of these four? Do Mathematics students need the same writing skills as language students? Are there a subject-specific language requirements, both in terms of vocabulary and in terms of specific styles (of speaking or writing): do business students need the same kind of language skills as philosophy students?
- Does the master's programme require (or assume) a higher English language proficiency at graduation than at admission? If so, is this seen as the responsibility of the student only, or are there elements in the curriculum and the teaching designed to bring the student to this higher level?

Transparency, validity and division of labour

How can the assessment of competencies be organised in an admission process that a) is transparent enough for potential applicants and b) allows for monitoring of its predictive value and validity over time.

Which part of the process can be handled by administrative staff (or a software programme) and which part must be done by Faculty? How can the Faculty part be transparent and less of a black box?

How can undue bias and prejudice be excluded from the admission process? Is it desirable / feasible to block information (photos, gender, nationality) that are deemed irrelevant for the admission decision?

In fact, clear answers at master's programme level to each of the key questions, the choice of criteria, levels and assessment mechanisms already are major building blocks to a transparent Coherent Admission Framework.

Actual transparency requires that these answers are clearly articulated in the public information (on the website or otherwise).

Validity can only be achieved if there is a monitoring system in place: if there is record of the admission decisions and if this information is regularly coupled to information on study progress and post-graduation alumni data. This requires that an adequate system of institutional data processing and institutional research is or can be put in place.

Division of labour between academics and administrative staff in the admission process is also already greatly helped by clear answers at master's programme level to each of the key questions, the choice of criteria, levels and assessment mechanisms. Awareness of the often mixed roles of academics and administrators in assessing if criteria of knowledge, academic ability and personal competence are met can enhance mutual trust and a clearer mandate.

One remaining issue – which may be said to be relevant for internal as well as external coherence – is that of the group composition as an element in deciding on admission of individual applicants. It may seem unfair at first to exclude applicants who are suitable, but belong to a group of whom there “already so many”? But if we consider multidisciplinary programmes which can only exist if students from different background work together – if we consider research showing that too many students from one culture has strong impacts on the whole group atmosphere and the learning outcomes – then we can imagine that group composition is indeed a serious issue. Establishing clear principles on group composition may help to make difficult decisions more manageable.

5. In conclusion

What are logical steps to create a Coherent Admission Framework; or rather, to improve existing admission practice in the direction of a Coherent Admission Framework?

One important aspect is the organisation of “change power”. The first step is for you, as academic with responsibility for the master’s programme, to decide if you can make the switch from “I feel I should do something about it” to “I actually am going to do it”.

The second step is to organise the human resources to do it. It takes time and effort to go through all the steps of creating a Coherent Admission Framework. You may decide that you need support from colleagues in administrative departments; how will you get it?

The third and crucial step is to organise sufficient support – moral and otherwise – from among your academic colleagues who are involved in the master’s programme. How do you get them on board?

In this implementation phase, it may be helpful to bring somebody from outside with experience and expertise in the topic. Bringing in someone from outside may help to create momentum and a sense of urgency. This is why the Mastermind Europe project has set up a “pool of experts” that you may call upon.

Annexes

Questions

List of questions to be posed and addressed at the level of a specific master's programme

1. What are the most compelling reasons for change? What is the problem?
 - For the programme director, academics & staff
 - For the university and stakeholders
 - For current and future students
2. When comparing your own situation to the Coherent Admission Framework, what areas are clearly open for improvement in:
 - 2.1. Integration of master's admission into the whole chain of contacts between student and university (from first contact to after graduation).
 - No areas for improvement
 - Quick wins:
 - Important but not easy/ quick:
 - 2.2. Integration of master's admission into the life cycle of the master's programme: curriculum → learning outcomes → degree profile → suitability for work/life after graduation.
 - No areas for improvement
 - Quick wins:
 - Important but not easy/ quick:
 - 2.3. "What does it mean to be successful in your master programme?"
 - Successful graduation
 - Success after graduation
 - Fit in class or school
 - No areas for improvement
 - Quick wins:
 - Important but not easy/ quick:
 - 2.4. Clear articulation of the criteria: "What do applicants need to be good at?"
 - No areas for improvement
 - Quick wins:
 - Important but not easy/ quick:
 - 2.5. Clear articulation of levels: "How good do they actually need to be in it?"
 - No areas for improvement
 - Quick wins:
 - Important but not easy/ quick:
 - 2.6. Clear articulation of assessment: "How do you know that they really are?"
 - No areas for improvement
 - Quick wins:
 - Important but not easy/ quick:
3. Are you satisfied with your choice of criteria
 - 3.1. Subject Related Knowledge & Skills?
 - Number of courses
 - Neutral description
 - Assessment
 - No areas for improvement
 - Quick wins:
 - Important but not easy/ quick:
 - 3.2. General Academic Competencies

- Which competencies, if any Assessment
- No areas for improvement Quick wins: Important but not easy/ quick:
- 3.3. Personal Competencies & Traits
- Which competencies, if any Assessment
- No areas for improvement Quick wins: Important but not easy/ quick:
4. Is the task & roles approach possibly useful for your programme?
- No areas for improvement Quick wins: Important but not easy/ quick:
5. Are your assessment tools (building on questions 2.1 – 2.3) adequate?
- Choice and mix of standardised tests Choice and mix of (inter)subjective tools Specific mechanisms
- No areas for improvement Quick wins: Important but not easy/ quick:
6. Are your language requirements clear and adequate?
- Which tests are accepted Balance of language competencies Higher proficiency at graduation?
- No areas for improvement Quick wins: Important but not easy/ quick:
7. Transparency, validity, division of labour
- 7.1. Is your admission transparent for all targeted student groups?
- No areas for improvement Quick wins: Important but not easy/ quick:
- 7.2. Can and do you check the validity of your admission policy?
- No areas for improvement Quick wins: Important but not easy/ quick:
- 7.3. Are you satisfied with division of labour / cooperation between academics and administrative staff in the admissions process?
- No areas for improvement Quick wins: Important but not easy/ quick:
8. Change process
- 8.1. Do you have adequate knowledge and insight into your current admission policy and practice?
- No areas for improvement Quick wins: Important but not easy/ quick:
- 8.2. Do you have sufficient knowledge of good (or bad) practice elsewhere?

- No areas for improvement Quick wins: Important but not easy/ quick:

8.3. Do you have adequate “changing power and energy”?

- Yes I do I may organise it I need support from:

List of Steps

- Analysis of current practice, comparison with the CAF approach
- Searching for examples of good practice, both of CAF in practice and of change trajectories
- Identification of ‘quick wins’: improvements than can easily be achieved
- Involvement of key stakeholders
- Identification of legal and regulatory conditions that have to be met
- General proposal for change in the admission process with
- Context and general policy considerations
 - o Aim and intended outcome of the change in terms of better quality and/or improved efficiency of admission
 - o Specific changes in the process
 - o Required changes in the rules
 - o Timeline and overview of steps
 - o Estimate of cost in time and money
 - o Plan for monitoring and evaluation

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