



## **Improving the quality of the supply-demand-match in VET by anticipation systems?**

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### **Agenda**

1. Conceptual considerations about the relationship of quality development and anticipation of future qualification needs
2. What do we need for improvement of matching by anticipation systems?
3. What do we have?
4. Some conclusions

### **1. Conceptual considerations**

In the conceptual map four big issues are related to each other,

- the quality model which is embedded in the policy implementation cycle
- concepts of quality assurance and improvement
- concepts about matching supply and demand in the qualification market
- and the concept of an anticipation system

In the quality model the KEY ISSUES are (1) the formulation of objectives and performance measures in a way that the improvement is measurable, (2) the appropriate production of information, and (3) the distribution of information to all relevant actors which can do anything for quality development. All those points are easy to figure out, but difficult to put into practice.

Concerning the quality concept, there is no shared „substantial“ definition of Quality, we have to work rather with an „operational“ definition: Quality is the fulfilment of goals/objectives, with regard to experience and expectations, considering the context. This brings us back to the already mentioned challenges of a sufficient definition of goals and objectives in terms of operational performance measures, considering time & resources necessary to reach them.

Concerning the concept of matching we have to ask what „matching“ of supply and demand actually means. This is not very clear and consensual so far, we can distinguish two different levels, the research level and the VET policy level:

- At the research level matching is part of the overall employment and labour market performance. It is difficult to assess separately. The concept of „mismatch“ has been developed as structural unemployment which in turn has many causes, bottlenecks in education being only one of them. Mismatch is measured implicitly by the variance of group-specific unemployment, which indicates the magnitude of mismatch.
- At the VET-systems and policy level there are currently basically two approaches very common, which more or less contradict each other:
  - Some prefer the supply of holistic competences by broad supply profiles, a strategy which leaves the matching issue implicit
  - Others prefer the supply of specialised VET qualifications, which makes the matching problem more explicit.

Measurement is done by macro-economic concepts as the identification of structural unemployment which gives us crude measures of mismatch (based on the NAIRU, or the Beveridge curve). However, those aggregate measures give only implicitly limited information about (mis-)matching for VET purposes: If the measures are good, we can assume the matching is functioning well. But the reverse is not true; there can be many causes other than qualification

mismatch for bad measures in labour market performance. Explicit measures depend very much on the definition and methodology about differences between qualifications and jobs. There is some research, but no consensus about how to understand and define matching.

Concerning anticipation we can distinguish between “early recognition“ and anticipation. The first is an objectivistic concept which wants to detect qualification demands as objective entities (like early recognition of cancer in medicine); the second concept is rather based on constructivist reasoning, seeing supply and demand as notoriously interactive, and as a field open to shaping by the strategies of the involved actors. The purpose of anticipation is the translation of the expected future dynamic of demands for „human resources“ into ET-systems.

It includes four key dimensions:

- quantitative (distribution of competences/qualifications)
- qualitative profiles
- time horizon (short-medium-long-term)
- choice of an adaptation-innovation perspective

The following reasoning is based on a core proposition: Anticipation is a mixture of two functions: knowledge/information (objectivistic) & shaping/formation/decision (constructivistic).

“Anticipation systems” are social systems of knowledge management. They link actors together in a certain pattern of division of labour (e.g., research – practice, information – decision making). Two perspectives always exist in anticipation systems: a technocratic and a professional-political perspective:

- Technocratic (Tp): appropriate models of projection, forecast and foresight
- Professional-political (Pp): embedding the technocratic element into the social process of knowledge production, bringing in informal knowledge and decision making

The challenge is how to combine the technocratic perspective and the professional-political perspective in a comprehensive anticipation system.

Now, bringing matching and anticipation back to the quality cycle, we can ask two questions and make two proposals for strategic development: How can the improvement of matching be part of the quality cycle? What role can anticipation play?

The two Proposals are:

- Quality might be seen in terms of quality of policy making (that means that the steering and decision making mechanisms have to be assessed as to how the preconditions for the improvement of the matching practice are set
- Matching might be specified as an objective along the whole quality cycle at the policy level (at each stage beginning from input via process to output and outcome the appropriate measures should be developed)

## **2. What do we need for the building of an anticipation system?**

- Knowledge about the Status-quo of matching
- Foresight about supply, demand, and matching
- Comprehensive system allowing for sharing knowledge among all key actors including
- Deliberation about objectives and their measurement
- Monitoring mechanisms along the quality cycle
- Inclusive communication flows in the system

## **3. What do we have?**

Probably we should better ask: what do we know at a comparative level? Maybe we have more than we know...

We know quite much at the technocratic level. Most research is concentrated there, and we know what we can do, and what works better worse. The state of the art is to employ methods of micro prognosis based on the observed behaviour of the actors and on econometric models. It is important that those activities are regularly done with comparable measures rather than one shot activities, in order that learning can take place. And a combination with other methods is feasible to avoid monopolies and monolithic one sided views (e.g., extrapolation, surveys, qualitative exploration Delphi, experts, Lit. rev.)

There are some main practical limits:

- data availability
- necessary resources
- which depend on the setting of political priorities/decisions

However, even if we apply the best available methods at the technocratic level, we do not really know what to do with the results. This concerns the link between the technocratic and the professional-political level.

A different focus is laid at those levels:

The technocratic perspective is focused on quantitative/distributional aspects: The employment dynamic depending on economic variables, observed for different aggregates: national, sectorial, occupational, regional, educational, etc.

The professional-political perspective is focused on the qualitative/profiling aspects of the VET supply: Development of the profiles of programmes; development of new programmes; planned competences, etc.

What do we have at qualitative level?

Here we can make a distinction of formalised methods and informal methods

Formalised methods:

- Functional Analysis (Tasks, operational areas)
- Surveys, detailed or strategic
- Qualitative generalised approaches, action research
- Conference-Methodology (e.g., Scenarios)

Informal methods:

- Combined Methods (mainly surveys+qualitative methods)
- Taylor made research (e.g., particular areas)
- Practitioners' task forces ( Decision /+ Information )

Stylised country practices can be obtained from an EU-15 wide study about anticipation tools and mechanisms (Feijen&Reubsaet 1996, 2000). Three types of systems exist at the professional-political level: Formal, informal, mixed systems. To my knowledge it is the only comprehensive study which has been made at the basis of a common methodology. It is maybe to some extent outdated, however, we have to start with something, and we can also expect time lags for effects on matching performance. The study also does not obtain measures for the „intensity“ of the application of certain methods.

At the level of the technocratic perspective the application of quantitative/distributional methods are classified. Partly a substitution of econometric methods with other methods was observed in the 1990s. A regular application of the technocratic perspective was obtained in six countries: NL, FIN, GER, SW, IRL, UK. Maybe since then more countries apply those methods regularly.

At the level of the professional-political perspective of the application of qualitative/profiling methods three types of systems can be obtained:

I. Formalised methods predominate in five countries (NL, GER, UK, F, ESP); a comprehensive system is in place in NL; strategic surveys are performed in GER; in countries functional analysis is applied.

II. Informal methods (FIN, SW, A, B, I, PORT); here the main role is for practitioners' task forces for decision making and information.

III. Mixture of informal + formalised methods: Applied in (IRL, DK, LUX, GR); particularly IRL und DK combine informal and formalised methods.

#### Cross-section of Typologies

	Regular technocratic	Not regular technocratic
Formalised	NL, GER, UK	F, ESP
Mixed formal & informal	IRL	DK, LUX, GRE
Informal	FIN, S	A, B, I, PORT

Do formalised systems pay?

An explorative analysis was made, based on 6 indices:

- Difference employment growth – ET supply growth
- Mismatch index ET distribution employed-population
- Mismatch index young employed – young population
- Change of mismatch index in time
- Change of mismatch index by age
- Mismatch in school-to-work transition

*The results point to the direction that the regular application of the technocratic methodology, as well as the application of formalized methods of the professional-political perspective is related to better measures of matching performance than informal methodology or the non-regular use of technocratic models. Maybe formalised systems pay. That result was not necessarily expected, because there is also much internal criticism on the performance of anticipation in systems which are quite fully developed. Intuitively, the combination of formal and informal methods was expected to work well.*

#### 4. Summary and Conclusions

##### Summary

- Anticipation: Combination of informative and formative functions
- Anticipation systems: social systems including relevant actors and their informal knowledge
- Quality of anticipation: Application of a system of quality assurance needs operational goals and objectives, measurement and indicators, and feedback mechanisms
- Measurement and indicators are not well developed; formalised systems may result in better matching

##### Conclusions

- Operative matching indicators must be disaggregated to the structure of the VET system
- Quality of matching can only be measured when operative goals and objectives are defined
- Distribution of labour among actors should clearly allocate responsibilities according to information-formation tasks (complementing technocratic by professional-political elements)
- Formalised systems might improve matching

**Reference to sources:**

*Matching-concepts and measurement*

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*Anticipation methods and country practices*

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