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## **Monitoring in the development and quality assurance of the education system**

**Abstract:** The aim of the article is to discuss the potential of educational monitoring, which is part of the debate on the quality of education, which has been ongoing since the 1980s. The assumptions of educational monitoring are situated in the theoretical and methodological concept of controlling the output resources of the education system as an opportunity to achieve better results by recognising changes in the framework conditions and process factors. The new approach to education control also fits into the context of an evidence-based policy that, according to the needs and expectations, can shape the development of the education system and set long-, medium- and short-term goals. In the article, it was considered important to first recognise the essence of educational monitoring and the dominant theoretical approaches and selected models, and then to identify and analyse the challenges related to it in the education sector in terms of development and quality assurance.

**Keywords:** educational monitoring, quality of educational system, educational effectiveness.

### **Introduction**

The problems of development and quality assurance are part of the field of educational effectiveness research – a relatively new field of research and analysis which has developed in response to the James S. Coleman *Equality*

of *Educational Opportunity* report (Coleman, 1966). The conclusions from the report came as a surprise. For it showed that there was a slight correlation between the conditions of schools and student achievement. Countering the belief that 'education cannot compensate for society' (Berstein, 1970, p. 344-347), research was initiated, which originally aimed at identifying the determinants of school effectiveness, in order to extend the search over time to the entire education system. This encouraged the researchers to conduct the research internationally and to see whether the developed solutions work similarly in other socio-cultural contexts and may contribute to identification of the processes and determinants for the development of educational effectiveness.

The approach adopted in the new millennium has been strongly reinforced by comparative research, whose relevance has been increasing lately. The status of comparative research has been recognised in the identification of framework conditions, i.e. conditions that are universal enough to provide a basis for the improvement of educational systems by other countries, despite existing political, economic, social, or cultural differences (Nowosad, 2019, p. 6-71).

One can assume that educational institutions have found themselves under pressure related to costs and their legitimacy. This has directed the attention of the international community towards the adequate use of resources and initiation of the effective processes in the various education systems. Consequently, the question of the resources provided to educational institutions and, more precisely, the relationship between their use and results has become increasingly more significant.

Terms such as system monitoring, educational standards or evaluation have gained importance and are present in all educational debates in developed countries. The importance of these terms has been reinforced by international school effectiveness surveys such as TIMSS, IGLU, PIRLS and PISA. These have provided a significant impulse to educational research and also had a substantial impact on school policy and practice. Thus, there has been a growing need for tools to provide reliable information on the quality of education and allow it to be systematically evaluated and guide further improvement. One such tool is systematic, data-driven observation and analysis of the education system in the broad context of its determinants, i.e. educational monitoring.

In most highly developed countries, monitoring is a widespread way of gaining knowledge about the education system. However, this raises questions about its potential and demonstration of which theoretical models have

gained recognition and legitimacy? What real benefits does it bring to the development of the education system? And more specifically, to what degree does it ensure the development of the quality and efficiency of education? And to what extent does it support the formation of educational policies aimed at refining (developing) the education system as a whole and its different levels? Attempts to answer the questions posed in this manner form a part of the current discourse on the development and quality assurance of the education system and set the order of the analyses referred to in the present article, including an effort to present the selected approaches.

### **The meaning, functions and expectations from educational monitoring**

The category of monitoring derives from the Latin *monitor*, in other words 'alerting'. Its essence comes down to constant observation, control of processes or phenomena, and overseeing something (cf. *Polish Language Dictionary PWN*, 2022). In management theory, the concept was originally associated with the processes and phenomena related to company functioning, as not only 'screening' or taking a close look at it, but also signalling the possibility of potential dangers (Bugaj, 2022). Essentially, educational monitoring can align with the levels and responsibilities of educational administration and concern the macro level – the education system, the medium level – the local (municipalities and counties) and the micro level: individual educational institutions. However, it is predominantly implemented at the national level (Döbert, 2009; Döbert, 2013).

Internationally, there is a high level of consensus in understanding and defining educational monitoring as an institutionalised form based on continuous observation and data analysis (Grünkorn, Klieme and Stanat, 2019). An overview of existing approaches allows us to assume that educational monitoring is:

a continuous, data-driven process of observing and analysing the education system as a whole (from nursery to adult education), as well as individual areas or parts of it, in order to inform educational policy and the general public about the framework conditions, course, results and effectiveness of educational processes. Educational monitoring can relate to both the participants and addressees of educational processes as well as the institutions of the educational system (Dobert, 2013, p. 29).

Educational monitoring can also be understood as a strategy of mapping the quality of the education system, which is achieved by continuous data collection on relevant indicators and keeping track of them, so that crisis situations can be spotted at the right time. The results should either directly influence the education system's control processes or form the basis of scientific analyses for the purpose of expanding the knowledge relevant for the control. Its stimulating effect on development stems primarily from comparisons with other countries or other sectors of the education system. What remains largely unresolved is how the results can be made available at different levels of the school system in an efficient and effective manner (Eder, 2011).

Educational monitoring implementation can be understood as the search for an effective link between the diagnosed needs and particular actions at the level at which they can be introduced. In such cases, educational monitoring executed at the municipal level can provide findings which will become an important impulse in shaping local political action. Brock and Mahl believe that this can occur as long as the findings of the monitoring, recorded in reports and documents, reach the relevant bodies, which will make decisions on their basis. As a result, empirical data in the form of quantitative and qualitative data will feed into local political discussions and influence processes of local politics (Brock and Mahl, 2019). Here, however, emerges the structural problem of education management at the local level, which aims to support central educational policy processes in the municipality, i.e. the implementation of central recommendations. In this case, the implementation of the obtained results into local political and administrative processes poses a challenge for many countries. Indeed, there are relatively few arrangements for the use of educational monitoring data within a municipality (cf. Michel, 2018, p. 17).

Nevertheless, educational monitoring is most often referred to as 'system monitoring', in which case it has essentially three functions:

- the function of observing, analysing and presenting relevant aspects of the education system,
- the function of system control, especially with regard to efficiency measurement, as well as
- the function of 'system diagnostics' by identifying changes and problems, as generating and extending knowledge about control (Böttcher, Bos, Döbert and Holtappels, 2008).

This narrow understanding of functions is sometimes expanded depending on the adopted perspective. Rürup, Fuchs and Weishaupt, for

example, take educational reporting as the most comprehensive form of educational monitoring. The researchers specified the expectations set for educational reports and demonstrated eight of their functions.

- providing data on the education system and quality development,
- justifying an addressee-oriented presentation of the education system
- a reference point in the cycle of political planning
- promoting evidence-based policy
- optimising educational leadership and management
- improving quality in the education system (indirectly at least)
- ensuring transparency of the education system for the public
- increasing public satisfaction with education policy (Rürup, Fuchs and Weishaupt, 2010).

In undertaking an analysis of the functions listed above, Eder points out that the first two seem relatively easy to implement, as well as to verify, since they are ultimately a part of the implementation of monitoring and he considers them to be the functional effect. The third to sixth functions are different and can be understood as user-related effects. This occurs when the content of educational reports is actually noticed. The last two functions – transparency and satisfaction – are not directly related to the content of the reports, but coexist with them. Eder refers to them as side-effects of monitoring (Eder, 2011).

As a result of monitoring actions, institutional educational processes become more transparent and can form the basis for public discussions and decisions. Monitoring information, as a product of monitoring, should by definition record a broad spectrum of data from educational requirements, to educational pathways, to educational outcomes. The data collected is usually combined with qualitative characteristics of the institutions. At that point, they open up a field for the ‘interaction’ of the obtained results and the recognised conditions, both organisational and personal ones. Some of the recognised data is ultimately concentrated in indicators, which are located at the level of the education system or individual areas of education or levels within the structure of the system. In this perspective, educational monitoring is systemic (Döbert, 2008) and fundamentally differs from evaluation. However, despite their differences, the categories are strongly linked, as it is difficult to carry out good evaluation or control without monitoring the processes (Hense, Böttcher, Kalmann and Meyer, 2019).

The focus on the development of the system and its individual institutions requires the monitoring and evaluation of education to be combined

into one system in terms of control. Such a comprehensive system, according to Dederling, can be fuelled by four main sources of data:

- data from educational statistics,
- data from international comparative studies
- data from surveys on the achievement of educational standards and other studies which provide additional information on the quality of learning processes in individual schools,
- data from educational reports focused on specific, other data components

(Dederling, 2010).

It is also worth mentioning that educational monitoring is more than just the reports themselves, which constitute its component related to educational standards, comparative research, accreditation and evaluation of educational institutions (Niedlich and Brüsemeister, 2012). Most often developed on behalf of the government, they constitute results of empirical research, published at regular intervals, systematically collected, focused on viewing the different levels of the education system and administrative areas of responsibility, demonstrating the relationship between subsystems, control of the process over specific time segments on the basis of the indicators (Döbert and Klieme, 2009). Thus, the basis for the preparation of the report is a set of indicators which can be updated to obtain a complete description of the processes within the system. As Niedlich and Brüsemeister emphasise, education reports are addressed to a wide audience in order to show all relevant aspects of the education system and the information under its control (Niedlich and Brüsemeister, 2012).

Another important aspect of educational monitoring indicated by Tegge is the fulfilment of the social function of education. The premise of monitoring, then, is to cover the entire education system and ensure the development of its quality. As Tegge notes, in order for educational monitoring to cover the entirety of the processes within educational institutions, it is important to determine the extent to which:

- individuals are able to self-manage their own biography, the I-environment relationship, as an individual regulatory capacity,
- provision of skills required on the job market and thus the quantitative and qualitative workload for the assumed level of welfare and social development is achieved,
- what is the level of social participation, also from the point of view of social cohesion, and prevention of discrimination based

on gender, region, social background, national or ethnic origin (Tegge, 2015).

Educational monitoring is intended to support policy and society regarding possible interventions to optimise the system in accordance with the guiding principle of lifecycle education (Döbert and Klieme, 2009). The essence of educational monitoring is to promote accountability and facilitate action, primarily on the basis of quantitative results. The information obtained to improve and ensure quality is identified and the relationships that occur are demonstrated (Fickermann and Weishaupt, 2019). For this reason, in addition to the monitoring itself, it is important that its results are not only well justified, but also clearly presented. Another significant aspect is to present topics central to long-term policy, which are developed in a continuous manner, as well as topics that are significant for ad hoc policy. Only such an approach creates the basis for developing the necessary recommendations and their implementation. The guiding principle then is to involve all those responsible for education in the efforts towards improvement.

### **Evidence-based education policy**

In the new management model for the education system, the control over the process was related with the monitoring of educational processes, and education policy was based on evidence. It was assumed that educational policy makers will act more effectively when they have a broader and structured control knowledge of how the system works. The relevant database is provided by evidence-based educational research (Altrichter and Heinrich, 2006). Usually, evidence is associated with scientific knowledge showing empirical facts from an external perspective. Bellmann and Müller describe this perspective as a hypertechnocratic model of control which attempts to show empirical facts from an external perspective (Bellmann and Müller, 2011). However, just as important as providing crucial control knowledge for the system of educational processes is the improvement of transfer of scientific knowledge to educational policy and practice (Tippelt and Reich-Claasen, 2010). Such an approach, however, raises some questions, e.g. demonstrating what knowledge should form the basis of such control (Dziemianowicz-Bąk, 2011).

The new guidelines for the management of education system have changed the approach to education policy and became part of the context of evidence-based policy, which advocates relating decisions and practices to the analysis of available facts.

In education policy, Dederling reduces the basic principles of such an approach to four broad stages:

- subjects in the education system are provided with reliable knowledge,
- acquired data is received professionally, appropriately processed and interpreted by those making decisions,
- the process of data acquisition and processing results in decisions relevant to the existing problems,
- based on the decisions made, measures are developed and implemented which should lead to improvement of quality (Dederling, 2010).

The variation of this framework approach can be reconstructed in at least three models: the rational policy-making model and the development and quality assurance model i.e. development of school and teaching quality supported by feedback and the model of data transfer in development and quality assurance in accordance with the concept of a multi-level system.

The rational model for policy making was formulated by the Swiss Coordination Centre for Research in Education (*Schweizerischen Koordinationsstelle für Bildungsforschung, SKBF*) with the aim of using educational reports in the collaboration between politics and science (Eder, Posch, Schratz, Specht and Thonhauser, 2002). The model assumes that key questions are formulated by politicians in the period leading up to the preparation of the report. Thus, a special feature is the provision of information and a database which meets the requirements of politicians and addresses already known challenges. For example, where there are already symptoms of crisis or where there is an accentuated problem. The educational report as a product of this cyclical process acquires a dynamic component in this case. Although the model highlights the process of transformation from well-established knowledge to the stage of relevant planning decisions initiated by policymakers through evaluation and discussion, it does not explain the circumstances under which knowledge can be transformed into deliberate administrative action by political actors and thus encounters the limitations of the influence of intention and control activities described by Altrichter and Heinrich (Altrichter and Heinrich, 2006). Another weakness highlighted by Eder is the narrowing down of collaboration to the community of politicians and researchers without representation of all key actors in the education system.

Data acquisition and its implementation potential presents itself differently in the model of development and quality assurance. It fits into the framework of the so-called multi-level models, in which Jaap Scheerens



emphasises the importance of designing and implementing specific control and evaluation procedures from a systemic perspective:

- procedures are not applied selectively, i.e. to evaluate specific activities and programmes, but are institutionally introduced as part of the control system and continuously applied,
- evaluation initiates and sustains development and learning processes in accordance with the principle of feedback-driven learning,
- different types of empirical research, each of which serves a specific purpose, are examined together and used synergistically,
- and the last condition: to organise and interpret the results, a theoretical framework model is used, which combines the analysis of context, entry resources (input), process and exit resources (Scheerens, Glas and Thomas, 2003).

Then, the fulfilment of the framework conditions indicated by Scheerens ensures the broadening of the acquired data through its transfer into the educational system – this occurs when comparative data from schools is processed or when contextual data is included. Schools then receive feedback which forms the foundation for its development and enhances the effectiveness of educational processes.

The model refers to quality development instruments of the education system developed for Austria. It draws attention to two key issues: (1) quality assurance at different levels of the school system and (2) it stipulates data collection not only at the national level, but also at the ‘lower’ levels: local, school and classroom. It also shows the relationship of data circulation between the levels and situates the significance of the collected knowledge in educational reports which returns to the lower levels in an enriched form as reference data, norms, etc. There they can act as specifications, comparative data and generate development processes. A weakness of the model, however, is the failure to demonstrate the course of setting and commissioning a school on a path of development. Again, Eder notes that one can only rely on the abstract, unsupported assumption that the acquired data will prove to be helpful and will be used in management.

Looking at these two different models prompts several important reflections. Their greatest weakness seems to be the lack of a description of how the data will be used and the course of information transfer, which is very vague and makes no direct reference to the manner in which decisions are implemented. As Eder points out – it is based on the assumption of a kind of inductionism that ‘good knowledge’ will translate into ‘good action’ and that

the perceived discrepancies of the rational process existing between accepted expectations and actual circumstances will motivate change on their own. Another abstract approach is to assume that the well developed knowledge will be applied as a starting point for development and indicate where the process will begin. Unfortunately, the process of transforming knowledge into action, as Eder further notes, is much more strongly conditioned by the overall conditions (pressure for change, orientation towards accepted goals, availability of resources in the implementation of change) than by the quality of the collected data. Thus, educational monitoring emerges as a reliable process, yet one that is still theoretically poorly justified in its approach to school quality development.

A different approach is presented by the model of 'educational monitoring as a communication process'. The basis of the model is founded on the assumptions of social communication processes, which should be understood in terms of theory of systems. It has been built into a nuanced description of the environment, where one can identify subsystems between which communication processes occur. Regardless of the relationship which interlinks the subsystems into a network, some communication areas can be defined more clearly because of stronger correlations existing within them. It is worth noting that for more process-oriented approaches which are related to the analysis of communication between subsystems, other methodological approaches will be needed to address the reconstruction of communication processes.

In the assumed monitoring structure of the system, Döbert, Eder and Seeber distinguish three subsystems (Döbert, Eder and Seeber, 2014).

- the evidence system (*das Evidenzsystem*),
- the legitimacy system (*das Legitimierungssystem*) and
- the development system (*das Entwicklungssystem*).

In their description, Eder highlights that an evidence system is essentially created through the interaction of three parties: educational policy, education administration and science. It is oriented towards the formulation and use of the monitoring system. The operational foundation here is the rational policy model, while the main task is to make decisions. The legitimacy system is created by combining the evidence system with the media and public opinion. It represents the symbolic client whom the evidence system is designed to serve. This is due to its orientation towards the improvement of life opportunities of children and youth. An essential function of this system is to mobilise and clarify the necessary actions. The development system, conversely, involves the connection between the evidence system

and the entities involved. It emerges from the execution of expectations – the transformation of control impulses into action.

The model identifies the three main subsystems as illustrative ones and their further development can thus be assumed. However, regardless of the structure, development and changes which actually take place, the results of the interaction between the subsystems are crucial. Then the assumed analysis of the effectiveness of educational processes implies, already at the stage of the construction of instruments, to use the effect of this interaction in the formulation of not only the research questions, but also the use of the obtained results for the planning of interventions. In this case, the design of the research project will have to begin by adopting the assumptions of system theory in the circulation of information and taking into account the different framework conditions of the three areas: the evidence system, the legitimacy system and the development system (Döbert, Eder and Seeber, 2014).

In transforming information into action-oriented knowledge, two key issues seem to be of significance: relevance (need) and application value (power to influence/induce changes). Knowledge is intended to establish actions and decisions which will influence and direct the work of the relevant actors in the education sector and lead the system towards change (Döbert, 2010). However, certain conditions have to be met. As Altrichter and Heinrich emphasise – not all data and information made available to actors in the field of education turns out to be relevant for development planning. It is also difficult to expect that all of the planned interventions were fully implemented and proceeded without any side-effects (Altrichter and Heinrich, 2005). In this case, it is only possible to reduce contingency or arbitrariness in the planning of interventions. An attempt to do so is presented by North in the ‘staircase of knowledge’ model, in which he distinguishes between data, information, knowledge and action (North and Kumta, 2018). In this instance, simply collecting and combining the information is not a sufficient condition for acquiring knowledge. Rather, various pieces of information must be gathered together, processed and organised in an increasing hierarchy of steps leading to a desired result.

The obtained database forms the grounds for initiating interventions. The knowledge is most often contained in an educational report, which is the product of the data collection process. If we assume that this process is conducted periodically, it takes on a dynamic dimension (Tegge, 2015). However, despite the developed ‘steps’ to strengthen the process of reducing contingency, it seems that this model also leaves still open possibilities of transforming the knowledge into specific actions. As a result, the process

does not seem so straightforward, as there are no clear answers on how to deal with the identified challenges. One can assume that this line of enquiry is still ahead of us.

### **Conclusion. Challenges and open matters**

The relevance of educational monitoring appears to be particularly important in our current reality, which is described as changeable, uncertain, complex and ambiguous. It highlights a greater need for a vision grounded in evidence which reduces uncertainty and, on the basis of the results of research, makes it possible to foresee and modify the process of improving the education system in its various areas and at different levels of management.

Educational monitoring primarily provides descriptive knowledge, which can be used to identify the strong points in the work of schools and to determine the achievement of set goals. The extent to which education policy utilises such knowledge is a new field explored in many countries, hence the lack of systematically conducted analyses and numerous issues yet to be validated. Considerably better examined is the problem of the extent to which knowledge from comparative research on school and classroom development is used by teaching professionals. However, even these findings are not entirely consistent. International research findings have shown that the use of evidence is often less 'linear' and 'instrumental' than assumed. Rather, it presents a gradual, long-term process of influence and change of assumptions on the grounds of which decision-making can take place (Dedering, 2010).

Among the main challenges there are still the implementation of knowledge from educational monitoring to educational policy and pedagogical practice as well as the optimisation of the use of data-based feedback at school level and embedding the feedback processing system in a coherent system of quality development in the education system.

To ensure utilisation of the potential of educational monitoring, a number of areas needs to be strengthened, such as support from educational research, including research on the education of children and youth, the labour market and the inclusion of other disciplines or research as supportive ones. In this field, the concept of indicator-based educational reporting unfortunately fulfils this task to a very limited extent. As a result, educational reporting based on indicators can never present the whole spectrum of processes: activities, changes, problems (especially recently emerged ones) in the education system. Educational monitoring in order to assist the quality

assurance processes of the education system and school development must also be open to emerging challenges as well as take them into account.

A consequence of the consideration of educational challenges and other still under-recognised but important fields is the inclusion of qualitative findings which analyse problem areas considered particularly relevant for educational policy. These can constitute a complement for quantitative data which register the dynamics of change. These new areas of monitoring can be oriented towards the problem and analytical depth, which will take into account aspects of development of the education system in the short and long term. It is also an area in which the diversity of processes of individual educational institutions can be presented and properly appreciated. Such complementation seems relevant in the case of orientation towards improving the quality of educational processes, the development of schools or the school system – fields which are also of public interest.

Researchers agree that there is a need to consider more than one condition in the development of a coherent educational monitoring system to ensure the development and protection of the quality of education:

1. Monitoring of the system takes place in a diverse network of subsystems. The primary objective must be to analyse and reconstruct the communication in/and between these subsystems.
2. Despite the general agreement on the tools needed for monitoring, the main question remains as to the significance of the chosen indicators or characteristics for the development of students' learning processes.
3. Findings from educational monitoring must directly correlate with the improvement of educational processes (concept and programme). Therefore, there is a need to develop research capable of demonstrating that information from system monitoring can contribute to the development of pupils' learning processes beyond indirect means, for instance through the mobilisation of key actors which, although desirable at a certain stage, cannot be an end in itself, especially at the lower levels of the education system.
4. At the system level, it is difficult to expect a direct impact of monitoring on the quality of learning and student performance. Therefore, indirect effects can and should be taken into account in this case. It is only important to demonstrate that information derived from monitoring is used to improve the lessons (Eder, 2022).

## References:

- Altrichter H., Heinrich M., (2006). Evaluation als Steuerungsinstrument im Rahmen eines „neuen Steuerungsmodells“ im Schulwesen. In: W. Böttcher, H.-G., Holtappels, M. Brohm (Hrsg.), *Evaluation im Bildungswesen. Eine Einführung in Grundlagen und Praxisbeispiele* (p. 51-64). Weinheim/München: Juventa.
- Altrichter H., Heinrich M. (2005). Schulprofilierung und Transformation schulischer Governance. In: X. Büeler, A. Bucholzer, M. Roos (Hrsg.), *Schulen mit Profil. Forschungsergebnisse – Brennpunkte – Zukunftsperspektiven* (p. 125–140). Innsbruck: Studien Verlag.
- Bellmann, J., Müller, T. (2011). Evidenzbasierte Pädagogik – ein Déjà-vu? In: J. Bellmann, T. Müller (Hrsg.), *Wissen was wirkt - Kritik evidenzbasierter Pädagogik* (p. 9-32).. VS Verlag für Sozialwissenschaften: Wiesbaden.
- Berstein, B. (1970). Education cannot compensate for society. *New Society*, 15 (387), 344-347.
- Böttcher, W., Bos, W., Döbert, H., Holtappels, H.-G. (2008). Bildung unter Beobachtung. In: Dies. (Hrsg.): *Bildungsmonitoring und Bildungscontrolling in nationaler und internationaler Perspektive. Dokumentation der Herbsttagung der Kommission Bildungsorganisation, -planung, -recht (KBBB)* (p. 7-11). Münster/New York/München/Berlin: Waxmann.
- Brock, M., Mahl, F. (2019). Anschlüsse im Bildungsmonitoring herstellen, In: M. Brock, F. Mahl, M. Nobis (Hrsg.), *Perspektive kommunales Bildungsmanagement. Kommunales Bildungsmonitoring – Anschlüsse herstellen* (p. 6-30). Halle/Leipzig: Deutsches Jugendinstitut e.V.
- Bugaj, J., Monitoring. In: Encyklopedia Zarządzania. <https://mfiles.pl/pl/index.php/Monitoring> [accessed : 10.07.2022]
- Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., York, R. L. (1966). *Equality of Educational Opportunity*. Washington D.C.: US Government Printing Office.
- Dederling, K. (2010). Entscheidungsfindung in Bildungspolitik und Bildungsverwaltung. In: H. Altrichter, K. Maag Merki (Hrsg.), *Handbuch Neue Steuerung im Schulsystem* (p. 63-80). Wiesbaden: Educational Governance, Band 7. VS Verlag für Sozialwissenschaften, Springer Science+Business Media.
- Döbert, H., (2008). Die Bildungsberichterstattung in Deutschland – Oder: Wie können Indikatoren zu Innovationen im Bildungswesen beitragen? In: OECD (red.), *Bildungsmonitoring, Vergleichsstudien und*

- Innovationen. Von evidenzbasierter Steuerung zur Praxis* (p. 71-92). Berlin: Berliner Wissenschafts-Verlag.
- Döbert, H. (2013). Das System des Bildungsmonitorings in Deutschland. *Dialogi o Kulturze i Edukaciji*, 1(2), 29–52.
- Döbert, H., Weishaupt, H. (Hrsg.) (2014). *Bildungsmonitoring, Bildungsmanagement und Bildungssteuerung in Kommunen – Ein Handbuch*. Münster u.a: Waxmann.
- Döbert, H. (2010). Bildungsberichte als Steuerungsinstrument – reichen Daten zur Steuerung aus? In: B. Schaal, F. Huber (Hrsg.), *Qualitätssicherung im Bildungswesen – Auftrag und Anspruch der bayerischen Qualitätsagentur* (p. 39-54). Münster/New York/München/Berlin: Waxmann.
- Döbert, H., Klieme, E. (2009). Indikatoren gestützte Bildungsberichterstattung. In: R. Tippelt, B. Schmidt, (Hrsg.), *Handbuch Bildungsforschung*, 2. überarb. u. erw. Aufl. (p. 317-338). Wiesbaden: VS Verlag für Sozialwissenschaften.
- Döbert, H., Eder, F., Seeber, S. (2014). *Steuerung durch Monitoring. Untersuchungen zu Nutzung und Wirksamkeit von Bildungsmonitoring. Entwurf für einen DFG-Antrag*, Berlin, Salzburg, Göttingen. Unveröffentlichtes Manuskript.
- Dziemianowicz-Bąk, A. (2011). Ideologia a „polityka oparta na dowodach”. Badania edukacyjne i konstruowanie rzeczywistości społecznej. *Forum Socjologiczne*, 2, 41-52.
- Eder F. (2011). Steuerung durch Monitoring – Untersuchungen zur Nutzung und Wirksamkeit von Systemmonitoring bzw. Rahmenüberlegungen zu möglichen Designs für solche Untersuchungen. In: D. Fickermann, K. Schwippert (Hrsg.), *Wissen für Handeln – Ansätze zur Neugestaltung des Verhältnisses von Bildungsforschung und Bildungspolitik* (p. 51-71). Hamburg: Zentrum zur Unterstützung der wissenschaftlichen Begleitung und Erforschung schulischer Entwicklungsprozesse,
- Eder, F., Posch, P., Schratz, M., Specht, W., Thonhauser, J. (2002). *Qualitätssicherung und Qualitätsentwicklung im österreichischen Schulwesen*. Innsbruck: Studien Verlag.
- Fickermann, D., Weishaupt, H. (Hrsg.) (2019). *Bildungsforschung mit Daten der amtlichen Statistik*. Münster: Waxmann.
- Grünkorn, J., Klieme, E., Stanat, P. (2019). Bildungsmonitoring und Qualitätssicherung (Kapitel 7). In: O. Köller, M. Hasselhorn, F. W. Hesse, K. Maaz, J. Schrader, H. Solga, C.K. Spieß, K. Zimmer (Hrsg.), *Das*

- Bildungswesen in Deutschland. Bestand und Potenziale. 1. Auflage* (p. 263-298). Bad Heilbrunn: Verlag Julius Klinkhardt.
- Hence, J., Böttcher, W., Kalmann, M., Meyer, W. (2019). Vorwort. In: J. Hense, W. Böttcher, M. Kalmann, W. Meyer (Hrsg.), *Evaluation: Standards in unterschiedlichen Handlungsfeldern* (p. 7-13). Münster: Waxmann Verlag.
- Michel, K. (2018). *Bildungsberichterstattung als kommunales Steuerungsinstrument?* München: Münchner Beiträge zur Bildungsforschung.
- Niedlich, S., Brüsemeister, T. (2012). Bildungsmonitoring zwischen Berichterstattung und Steuerungsanspruch – Entwicklungslinien und akteurtheoretische Implikationen. In: A. Wacker, U. Maier, J. Wissinger (Hrsg.), *Schul- und Unterrichtsreform durch ergebnisorientierte Steuerung. Empirische Befunde und forschungsmethodische Implikationen* (p. 131-153). Wiesbaden: VS Verlag für Sozialwissenschaften, Springer.
- Nowosad, I., (2019). *Kultura szkoły w rozwoju szkoły*. Kraków: Oficyna Wydawnicza Impuls.
- North, K., Kumta, G. (2018). *Knowledge Management Value Creation Through Organizational Learning*. Switzerland: Springer International Publishing AG, Cham.
- Rürup, M., Fuchs, H. W., Weishaupt, H. (2010). Bildungsberichterstattung – Bildungsmonitoring. In: H. Altrichter, K. Maag Merki (Hrsg.), *Handbuch Neue Steuerung im Schulsystem*. VS Verlag für Sozialwissenschaften. [https://doi.org/10.1007/978-3-531-92245-4\\_15](https://doi.org/10.1007/978-3-531-92245-4_15) [accessed : 10.07.2022]
- Scheerens, J., Glas, C. A. W., Thomas, S. M. (2003). *Educational evaluation, assessment, and monitoring. A systematic approach*. Lisse, The Netherlands: Swets & Zeitlinger.
- Słownik języka polskiego PWN*, Monitoring, w: <https://sjp.pwn.pl/sjp/monitoring;2568296.html> [accessed 10.07.2022]
- Tegge, D. (2015). Steuerung von Bildung, In: H. Döbert, H. Weishaupt (Hrsg.), *Bildungsmonitoring, Bildungsmanagement und Bildungssteuerung in Kommunen* (p. 23-46). Münster-New York: Waxmann.
- Tippelt, R., Reich-Claasen, J. (2010). Stichwort „Evidenzbasierung“. *DIE – Zeitschrift für Erwachsenenbildung*, 4, 22-23.