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Research Results as a Basis for Professionalization: Transfer and Practical Applications from the Point of View of ECEC Staff and Managers

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Abstract:

The development of scientific expertise among professionals is increasingly being discussed in the context of academic qualifications, whereas little attention has been paid to professionalization through research results, especially in the context of participation in research projects by daycare center actors. However, this potentially can dissolve the boundaries between science and practice through research-related synergetic effects. Based on an online survey with N = 1,200 pedagogical specialists and managers, this article examines the benefits of participating in research and the transfer of science practices.

Keywords:

ECEC setting
Transfer
Online survey
Research participation

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1. Introduction

The growing importance of research for the professionalization of educational professionals is reflected, among other things, in the increase in research activities in early education [1–2]. Research can open up subject-specific questions, but also practices and logic of action in the field [3]. In addition, change processes can be achieved indirectly, such as an improvement in the pedagogical quality of daycare centers [4]. The understanding of scientifically based professionalization is sometimes limited to the perspective of a rather passive transfer of research results to those undergoing professionalization [5]. The starting point of this article is the discourse on sustainable transfer and the associated questions regarding the need for new theoretical or empirical findings on the part of educational professionals and how these findings can be transferred into practice.

2. Transformation is the core mission of scientific institutions

The transfer of scientific findings, e.g. into society and politics, but also educational "practice", is one of the core tasks of universities and research institutions [6]. However, there is no direct, linear sequence between

the generation of results by researchers and further developments in the field of early education. Rather, the transfer of results into educational practice follows its internal logic, to which transfer research is dedicated. This includes various multidisciplinary discourses in which "diverse terms with differing emphases" are used for the transfer (process) [2, 7]. Gräsel offers an interpretation of the concept of transfer that appears to be a useful definitional approach for the context of this article: transfer as the "dissemination of (current) scientific knowledge into practical fields", which brings about transformations insofar as an "active engagement with and application of knowledge in practice" takes place by the various actors [2, 8]. This view emphasizes researchers on the "provider side" with a "duty to provide", who are responsible, among other things, for "the preparation and access design — via communication channels known to practice — of research" [9]. On the other hand, there are educational professionals (user side) who integrate knowledge into their educational practice through active dialogue [10–11].

2.1. Science-practice transfer (design)

More recent findings show that research has not yet succeeded in anchoring its findings in daycare center practice [12]. This means that despite the importance of transfer, scientific findings are very rarely put into practice [13]. Gräsel sees one of the reasons for this in the transfer support factor and emphasizes that the communication channels and the roles of the institutions and individuals involved require greater attention [8]. In this process, the diversity of the starting conditions in the daycare centers and the diversity of the actors involved in the research concerning their prerequisites and objectives are brought into focus [14]. Sustainable transfer in the sense of implementing empirically based innovations in educational practice requires an interactive and cooperative transformation process. It requires target group-specific and application-oriented processing as well as the low-threshold provision of structured summaries of the relevant research results for users [8–9]. Reporting back research results is seen in this article as part of the organization of research relationships between researchers and the people being researched. In this assignment to the research relationship, the feedback of results becomes the subject of research ethics [10].

2.2. Science-practice transfer as an aspect of research ethics

Research ethics has gained importance as a cross-cutting topic in recent years. This can also be seen in the guidelines and codes that have been developed by various professional associations [15]. They describe criteria for "morally appropriate behavior" to protect the people involved in research [16]. These include the voluntary nature of participation, being informed, and data protection [15–16]. Not yet explicitly listed in the criteria, but of enormous importance as a "supplementary aspect of research ethics", is the transfer of research into practice in the form of feedback to the institutions and their stakeholders [17].

3. Questions and data basis: The research meets the daycare center project

The research project research meets daycare center (2017–2021) deals, among other things, with the experience of research in everyday daycare center life from the perspective of educational specialists and managers and examines the design of research (transfer) practice with special consideration of research ethics standards. Five sub-questions are addressed below.

I. What transfer-related motives guide educational professionals when deciding to participate in research projects?

II. To what extent are these motives fulfilled by participating in research projects?

III. What needs to arise on the part of educational professionals about the transfer of results?

IV. Which transfer channels do educational professionals use to access research results beyond their project participation?

V. To what extent is there a correlation between age and the use of transfer channels?

The exploratory nature of the project is reflected in the mixed-methods research design [18]. The project comprises three sub-studies. The results selected to answer the aforementioned questions originate from the Germany-wide online survey (sub-study 3) of

educational professionals and managers in daycare centers (in the summer of 2019), which was preceded by two sub-studies [11].

4. Survey method

The online survey was realized with the SoSci Survey [19–20]. In collaboration with the Leibniz Institute for the Social Sciences (GESIS), a representative, three-stage random sample was drawn from daycare centers (stratum 1: large cities, stratum 2: cities, stratum 3: municipalities) in 100 municipalities from all federal states. The individual locations were randomly selected in proportion to their share of one- to six-year-olds within a stratum. From the 11,409 daycare centers researched for these locations, 9,135 daycare centers were randomly selected and contacted.

4.1. Survey instrument

The questionnaire was developed iteratively and inductively-deductively, taking into account the results of the previous sub-studies, the ethics guidelines of the DGfE, and the current state of theory and research on the challenges of conducting research projects and designing access to the field [15, 21–22]. It comprises seven survey sections: (1) general information, (2) basic attitude towards research participation, (3) benefits of participation, (4) assessments of research ethical rigor, (5) perceived "disruptive factors", (6) future research in the daycare center and (7) information behavior regarding research results.

The five items on motivation to participate in research and the benefits of participation were assigned a four-point Likert scale (strongly disagree to agree, with a fallback option); the item on feedback on results was used to record a supplementary aspect of research ethics. The question about the perceived "disruptive factors" was developed inductively on the basis of the results of sub-study 2 and posed as an open question.

The draft questionnaire was the subject of a two-stage pretest procedure in which a standard observation pretest (N = 30) was supplemented by a two-stage cognitive pretest with educational specialists and managers (N = 4) [23]. The content of the questionnaire was then adapted. This was then entered into the SoSci Survey portal [20]. Using a filter guide, the participants were asked questions tailored to their professional position and personal research experience. The online survey was activated for five weeks for the daycare centers contacted.

4.2. Sample

A total of N = 1,200 people took part in the online survey. Of these, 419 people (42.9 %) had their own research experience, of which a total of 385 people (91.9 %) had a management function (full or partial leave of absence), while 34 people (8.1 %) were employed as educational professionals without a management function. The average age of participants with research experience at the time of the survey was 48.04 years (SD = 9.65). Geographically, they were spread across 14 federal states. Of the 419 people with research experience, 117 (27.9 %) answered the open question on perceived "disruptive factors."

While the analyses of questions 1 to 3 took into account the answers of the n = 419 people who already had their own research experience, the analyses of questions 4 and 5 refer to the total sample (N = 1,200).

4.3. Evaluation methods

The quantitative data was analyzed using SPSS 25 [24]. The frequency distribution of the participants in the survey showed an imbalance between managers and teaching staff. To counteract a distortion of the results, the data was weighted (0.07 for managers, and 7.71 for educational professionals) and then analyzed descriptively and inferentially. The various transfer channels that were offered as response options were grouped into two categories:

a. Conferences and further training (= specialist lectures at conferences, further training, collegial exchange in the daycare center/team teaching).

b. Media-related transfer (= websites, social media such as Facebook, podcasts, YouTube, specialist books, specialist journals, daily newspapers, television).

A total score was determined for both categories (summation of the score based on the number of selected response options per transfer channel) and then the correlation measures were determined using non-parametric tests (rank correlation coefficient Spearman-

Rho r_s^2).

As no correlations were found for the media-related channel ($r_{s\ Age,\ SumTK\_Mediengeb}$ = .018; *P* = .645; *N* = 659; $r_{s\ ProfessionPos,\ SumTK\_Mediengeb}$ = .011; *P* = .774; *N* = 671), the transfer channel media-related transfer was divided into digital media (= websites, social media such as Facebook, podcasts, YouTube) and traditional media (= specialist books, specialist journals, daily newspapers, television). Bivariate correlations and partial correlations were calculated to be able to identify a possible influence of control variables.

The subject of the content-structuring qualitative content analysis according to Kuckartz (question 3) is the answers of respondents with research experience to the open question "Is there anything that bothers you about research in your daycare center?" [25]. Based on the material, a coding system with eight inductively obtained thematic codes was developed to analyze and categorize the answers, of which the code Lack of practical relevance of research is used in this article (subcodes Lack of changes in daycare practice despite research and problems in practice are not the subject of research) [26].

5. Results

5.1. What transfer-related motives guide educational professionals when deciding to participate in research projects?

Two transfer-related motives were identified. Firstly, the desire to further develop their competencies, and secondly, the intention to contribute to the further development of (their own) daycare center. **Table 1** shows that both motives motivated the respondents to take part in research projects. In each case, the majority of respondents agreed or tended to agree with these statements: 63.2% (*n* = 244) of respondents agreed with the motive of developing their competencies and 82.4% (*n* = 317) of respondents agreed with the motive of further developing the daycare center.

Another motive that characterizes the decision to participate is interest in the results of the research project. This item cannot be categorized as a transfer-related motive for participation and is therefore considered separately. As can be seen from **Table 1**, the majority of educational professionals (94.3%; *n* = 365) agree or tend to agree with the statement that they are interested in the results.

5.2. To what extent are these motives fulfilled by participating in research projects?

The majority of respondents stated that the results of the last research project were reported back by the researchers: 70.0% of participants (*n* = 262) agreed or tended to agree with the statement (M = 2.94; SD = 1.16). This suggests that the researchers are aware of the importance of reporting results. At the same time, it is surprising that 20.0 % of respondents (*n* = 77) stated that they had not received any feedback on the results.

In the context of question 2, the next step is to determine the extent to which the educational professionals were able to utilize the results from the research projects for themselves and their educational practice. The results in **Table 2** suggest that the motive of expanding one's professional competencies was only

Table 1. Assessments of surveyed educational professionals and managers on the transfer-related motives for their participation in research projects and interest in the results (absolute frequencies, percentage distributions in brackets)

Transfer-related motives for participation	N	Does not apply	Tends not to apply	Tends to apply	Applies	M	SD
I hoped that I would be able to expand my skills	385	63 (16.3 %)	79 (20.5 %)	140 (36.3 %)	104 (26.9 %)	2.74	1.03
I wanted to be involved in the further development of the daycare center	386	17 (4.4 %)	51 (13.2 %)	127 (33.0 %)	190 (49.4 %)	3.27	0.85
I was interested in the results	387	6 (1.6 %)	16 (4.1 %)	115 (29.7 %)	250 (64.6 %)	3.57	0.64

Notes: Cronbachs-α: .51.

Table 2. Assessments of the pedagogical specialists and managers surveyed on the direct transfer-related benefits of their participation (absolute frequencies, percentage distributions in brackets)

Benefits of your own participation	N	Does not apply	Tends not to apply	Tends to apply	Applies	M	SD
I was able to expand my competencies	328	61 (18.0%)	101 (31.0 %)	98 (30.0%)	68 (21.0%)	2.54	1.02
I can use the research results for my daily work	329	70 (21.0%)	111 (34.0%)	94 (29.0%)	54 (16.0%)	2.40	1.01

Notes: Cronbachs-α: .85.

Table 3. Definition of subcategories for the category Lack of practical relevance of research (as perceived "disruptive factors") with examples from the material

Category: Lack of practical relevance of research		
Subcategory	**Definition**	**Example from the material**
Lack of change in daycare center practice despite research	The research results do not lead to any noticeable changes in the framework conditions in daycare center practice	The fact that all research never leads to a reduction in the number of children
Practical problems are not the subject of research	The reality of day-care centers and the everyday problems they face are not made the subject of enough research	Too remote from practice, no reference to real everyday life

partially fulfilled through participation. Only 51.0% agreed or somewhat agreed with the statement "I was able to expand my professional competencies" (n = 166). Almost as many people (n = 162) stated that this statement did not apply to them personally or did not apply at all. The response distribution for the statement I can use the research results for my daily work is similar. Here, however, the majority of respondents (55.0 %) (n = 181) stated that this statement was not or rather not true.

5.3. What needs do educational professionals have regarding the transfer of results?

About the category of the lack of practical relevance of research, the interviewees describe that, in the context of the desired transfer, the framework conditions of their educational work remain unchanged despite research (**Table 3**). On the other hand, the responses to the second sub-category reflect the fact that the research questions addressed in the projects are not congruent with the challenges and unanswered questions of the day-to-day work of the educational professionals in the daycare centers. An expectation of the educational professionals can be identified here, which calls for a stronger focus on the needs of the field.

5.4. Which transfer channels do educational professionals use to access research results beyond their project participation?

According to Buggenhagen, the channels that educational professionals use for information about current research results can be divided into communication-orientated transfer instruments (e.g. lectures at universities), media-based transfer instruments, and the area of meetings and conferences [9]. Two of these categories were identified based on the results of the "Research meets daycare centers" project.

Table 4 shows an overview of the media-based transfer instruments, which are listed according to the frequency with which they are mentioned. It can be seen that the media of specialist journals, websites, and specialist books dominate. These media, which tend to be categorized as traditional, offer the educational professionals surveyed access to the latest scientific findings much more frequently than digital media (e.g. YouTube, podcasts).

Table 4. Response distributions to the question "Where do you obtain information about research in daycare centers?", summarized in the multiple response set media-related transfer (sorted by frequency of mention)

Transfer channel: Media-bound transfer	N	Percent
Specialist journals (e.g. kindergarten heute, KiTa aktuell)	611	26.4 %
Internet pages/specialized portals	552	23.9 %
Specialized books	402	17.4 %
Television (e.g. news, reports, documentaries)	278	12.0 %
(online) Daily newspapers	268	11.6 %
Social media (Facebook etc.)	137	5.9 %
Youtube	42	1.8 %
Podcast	23	1.0 %
Total	2312	100.0 %

It is also evident that transfer through conferences and training courses is mentioned more frequently as an information channel compared to media-based transfer instruments. The research results are primarily transferred into educational practice via traditional training courses, but also via peer-to-peer dialogue within the team and specialist presentations at conferences (**Table 5**).

Table 5. Distribution of responses to the question 'Where do you obtain information about research in daycare centers?', summarized in the multiple response set "Transfer through conferences and training courses" (sorted by frequency of mention)

Transfer channel: Transfer through conferences and training courses	N	Percent
Further training	597	36.9 %
Collegial exchange in the daycare center/ team teaching	552	34.2 %
Lectures at conferences	467	28.9 %
Total	1616	100.0 %

5.5. To what extent is there a correlation between age and the use of transfer channels?

The calculation of the correlation coefficient shows a slight correlation between the age of the respondents and the use of the transfer channels digital media ($r_{s\ age,\ SumTK\_DigiMed}$ = -.16; $P < .001$; N = 659), traditional media ($r_{s\ age,\ SumTK\_TradMed}$ = .12; $P < .001$; N = 671) and transfer through conferences and training courses ($r_{s\ age,\ SumTK\_AusFob}$ = .12; $P < .001$; N = 671). This means that the younger the participants were, the more frequently they stated that they used digital transfer channels, the older they were, the more frequently they stated that they used traditional media and transfer through conferences and training courses. Taking into account the control variable of professional position, there were no changes in the strength of the correlations.

There was also a slight, significant correlation between the respondents' professional position and the transfer channel transfer through conferences and further training ($r_{s\ BerufPos,\ SumTK\_AusFob}$ = .18; $P < .001$; N = 671), i.e. managers selected answers in this category more frequently than educational professionals without a management function.

6. Discussion of the results

Regarding the results for answering question 1, it can be seen that the interest in research results and the associated goal of further developing their professional skills as well as the quality in their institution are decisive (transfer-related) motives for respondents to participate in research projects in their childcare centers. This means that there is not only great interest in the research results on the part of the scientific community but also the part of practitioners as a key target group for research [27]. However, in 20.0% of cases, results from the surveys were not reported back to the institutions at all or only with very long delays [10]. Firstly, this means that the professionals themselves are required to "actively research scientific findings from the daycare center sector via various publication organs" [10]. Secondly, they lack the direct benefit that they intended to derive from participation (or that they were promised) and thirdly, the personnel and time investment may not pay off (as expected) from the perspective of the provider or the institution. If, on top of this, the research is also said to lack practical relevance — noticeable in the lack of change in the early childhood education system and the lack of inclusion of pressing problems

in practice (question 3) — then, in the worst case, such experiences reduce the legitimacy of research and the willingness of professionals and managers or providers to accept future research inquiries [17]. Or, as a final consequence, they lead to employers (in the example: funding organizations) having to pay for the availability or release of their employees for research activities in the foreseeable future, for example, to balance the cost-benefit ratio. Finally, the lack of time and personnel resources in everyday pedagogical work is among the central reasons for the rejection of research requests and explains why "the strengthening of the secondary use of research data is regularly advertised and an examination of the possibilities in this regard is not only obligatory in third-party funding applications" [21, 27].

7. Implications for research practice

Research findings can enrich practice if researchers fulfill their "obligation to deliver" and report the research results back to practice after the project has been completed in a way that is appropriate for the target group (e.g. observing accessibility of content; concretization of practice-related conclusions) [9, 27]. These results can then be applied in daily work and thus contribute to the further development of pedagogical professionalism. The data on the utilization of transfer channels illustrates that educational professionals inform themselves about current research in the field of early education beyond their participation in research projects. This showed that younger professionals and managers more frequently chose digital media as a source of information. In contrast, the two transfer channels of traditional media and conferences and training courses were chosen more frequently the older the participants were. Although there were only slight correlations based on the data material, they should be understood as an indication that, in addition to broad utilization of all transfer channels (including traditional media), digital media should also play an increasing role in the future, particularly concerning the younger generation of specialists and managers. This requires, among other things, an expansion of the technical equipment in the daycare centers (e.g. PC, WLAN), an automatic free subscription to academic journals for the daycare center sector (so-called "daycare center platform") in combination with opportunities for exchange between research and practice from the perspective of practitioners [27]. For this reason, the transfer in favor of a sustainable research partnership with the daycare centers should be planned with additional financial and time resources in project applications [28–30].

8. Limitations

The information and access to the online survey were provided by the daycare center management. Furthermore, both access and the use of digital media in the context of the online survey were assumed on the part of the participants. The survey was only fully completed by n = 670 participants (55.8 %), which is partly due to the filtering process.

Disclosure statement

The authors declare no conflict of interest.

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