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Analysing the Role of External Policy Interventions in Explaining the Trend of School Educators' Intrinsic Motivation

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Abstract

This study investigated the role of external policy interventions in explaining the trend of school educators' professional intrinsic motivation. Through the explanatory sequential design of the mixed study, we first described the trend in the intrinsic motivation of a total of 1 470 school educators between 2012, 2014, 2016 and 2018 by four-legged cross-sectional sub-studies. Then, we collected retrospective narrative data to give meaning the trend. We analyzed the data by descriptive statistics (F and Ⅱ² tests) and content analysis. At the end of the study, we found out a negative significant trend in educators' intrinsic motivation as the years progressed. Past experiences of educators indicated the meaningful role of external policy interventions in generating this trend.

Keywords: Policy Interventions, School, Trend, Intrinsic Motivation, Mixed Study

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Introduction

An intrinsically motivated employee is a very important feature of organizational development. Creative, sensitive, flexible, and deeply knowledgeable people can make invaluable contributions to the work life. In the educational area, intrinsically motivated teachers can lead to a significant improvement in students' learning in very diverse settings (Viennet and Pont, 2017). Professional intrinsic motivation of educators in school (PIMES) is a significant contributor for innovative practices at school level. Therefore, the educational administration tries to improve PIMES. However, external interventions may have reverse effect on it. Although intrinsic motivation (IM) is an internal process, it is also susceptible to external interventions. *The Motivation Crowding Theory* argues the influence of external interventions on employees' intrinsic motivation (Frey and Jegen, 2001). In line with this theory, studies, involving participants from different industries, pointed out the effect of the external intervention on the IM (e.g., Deci, Koestner, and Ryan, 1999; Jacobsen, Hvitved, and Andersen 2014; Pedersen, Andersen, Jensen, Waldorff and Jacobsen, 2018). Schools are mainly professional organizations, and educators in school tend to act autonomously in teaching-learning process. Any external intervention to this process can be perceived as a threat by educators. This assertion has a significant meaning for developing and implementing the educational policies. Literature review displays the research gap in addressing the role of policy interventions in forming the PIMES. This study aims at investigating the role of educational policy interventions (EPI) in forming the PIMES.

Intrinsic Motivation of Educators

Intrinsically motivated people in a particular profession has the potential to commit original and valuable works in an organization. Intrinsic motivation (IM) has a more powerful effect on effort and outcomes than the extrinsic one has (Cerasoli, Nicklin and Ford, 2014). Controlling an individual's behavior by outer sources refers to external motivation; on the other side, the IM describes personal control over his/her behavior. In addition, extrinsic motivation is influential for the routines but it is not for tasks requiring creativity (Buchanan and Huczynski, 2017; Demir, 2019; Dönmez, 2013; Lunenburg and Ornstein, 2012; Robbins and Judge, 2015; Ryan and Deci, 2000; Ryan and Deci, 2017; Schermerhorn, 2012).

According to Ryan and Deci (2017), IM works based on enjoying the activity itself and employee has enthusiasm and attention. It refers to paying attention, goal setting, autonomy, competence, and mastery. Theoretical basements of intrinsic motivation are summarized in Table 1. It indicates the main elements of intrinsic motivation such as recognition, affiliation, and self-actualization (Buchanan and Huczynski, 2017; Demir, 2019; Robbins and Judge, 2015; Schermerhorn, 2012). Educational administrators can improve educators' intrinsic motivation, by

satisfying educators' high-level psychological needs such as recognition, autonomy, enthusiasm, and self-efficacy.

Table 1. Summary of the theoretical basements of intrinsic motivation

Source	Indicators
Physical needs, hygiene factors	Adequate amount of wage (Maslow, Alderfer), workplace conditions, material, equipment etc. satisfaction (Herzberg, Vroom)
Security	Working in secure condition (Maslow, Alderfer), obeying the rules (Herzberg), having job security (Herzberg)
Social interaction, affiliation	Having good relationship with colleagues and administrators (Maslow, Ryan and Deci), good communication (Alderfer), cooperation, helping each other, sharing (McClelland), enjoying her/his job (Herzberg)
Recognition, autonomy, having authority and power, equity, fair treatment	Being appreciated (Vroom, Maslow, Herzberg) and recognition (Maslow, Herzberg), achievement, development (McClelland), managing, leading, competing (McClelland), having enthusiastic goals (Herzberg, Vroom, Locke), equity and equality (Adams)
Self-actualization	Autonomy (McClelland, Herzberg, Vroom, Pink, Ryan and Deci), carrying out individual goals (Maslow, Herzberg), being creative and productive (Alderfer), improving yourself through continuous learning new things (Herzberg), self-efficacy (Vroom, Pink), enjoying what s/he does (Herzberg), value of the expecting result (Vroom)

Pink (2009) stated that motivation, as a reactive indicator, should be treated as a *symptom of a problem*. Recent studies suggested that bureaucratic and authoritative directions may harm IM (Gajardo and Grau, 2019; Viennet and Pont, 2017). Similarly, Jensen, Kjeldsen and Vestergaard (2019) found a negative effect of regulatory policy intervention on medical practitioners' motivation in a three-wave panel survey. External interventions such as EPI threat employee's IM (Friedman and Dougney, 2012; Jacobsen et al., 2014; Jensen, et al., 2019). In addition, instability and irrelavence of educational policies also diminish educators' IM (Karabağ Köse, Taş, Küçükçene and Karataş, 2018). Brain, Reid, and Boyes (2006) argued that the success of an EPI depends heavily on educators' enthusiastic and genuine effort. Thus, it seems that EPI and PIMES interact with each other.

EPI and PIMES

The last two decades we witnessed many educational reforms nurtured from The New Public Management across the world. These reform movements proposed the new administrative approach based on accountability, autonomy, leadership, and self-evaluation. Theoretically, they empower the professional structure in the school (Schleicher, 2018; Viennet and Pont, 2017). However, some reform acts led to unintentional results. Beside other reasons, one of the basic problems, they argued, is improper practice that can trigger reactive behaviors (Buldu and Er, 2016; Darling-Hammond, 2010; Ehren, Gustafsson, Altrichter, Skedsmo, Kemethofer, Huber, 2015; Fullan, 2011; Schleicher, 2018; Viennet and Pont, 2017). Furthermore, recent studies reported that the policymaking process as disregarding the educators in school, cause educators' negative reaction (Brain, et al., 2006; Buldu and Er, 2016; Lin and Miettinen, 2019; TEDMEM, 2018; Viennet and Pont, 2017). Ignored educators

may lose their enthusiasm to transfer policy into practice. According to Schleicher (2018), motivation is in the invisible part of the failure of much educational reform.

Previous Studies

Despite an increasing number of studies focused on the motivation of educators in school, however few of them focused directly on IM. The most related studies investigated university students' IM in the 14-week semester at four points in Germany (Bieg, Reindl and Dresel, 2017) and Arizona-USA (Hanus and Fox, 2015). Although they found a stable score of IM, Scherrer and Preckel (2019) found a significant mean-level decline in students' IM in 1.6-year average time by a meta-analysis of longitudinal studies. They emphasised time-duration as a significant variable for IM. Accordingly, results of the prior one-time quantitative designs (descriptive survey and correlational) (Abos et al., 2018; Bektaş, 2010; Helvacı and Başın, 2013; Kıran and Sungur, 2018; Skaalvik and Skaalvik, 2018; Töre, 2020) were different from those of longitudinal studies (Bieg et al., 2017; Hanus and Fox, 2015; Praetorius, Lauermann, Klassen, Dickh€auser, Janke and Dresel, 2017). On the other hand, previous studies, related with IM, focused on educators' particular characteristics (e.g. successful teachers), particular subject (e.g. biology teachers), particular educational level (e.g. lower secondary) or particular school type (e.g. school for gifted children) (Börü, 2018; Demir and Karakuş, 2015; Hennefer, 2018; Kıran and Sungur, 2018; Mahler, Großschedl and Harms, 2018; Praetorius et al., 2017; Sivertson, 2018). Studies focused on the effect of external interventions and its role in forming PIMES have not been attained. Therefore, it needs a comprehensive study investigating the role of EPI in forming the PIMES.

Aim

This study, to address the research gap, aimed at describing a trend in PIMES in a longer period and investigating the role of EPI in explaining this trend based on the retrospective views of school educators. Study's objectives are as follows: To figure out the PIMES in 2012, 2014, 2016 and 2018 on different samples; to delineate the trend in PIMES; to analyze the significance of the trend in PIMES, and finally to find out the views and experiences of educators about the role of EPI in forming PIMES. This study can also contribute to improving the functionality of policy interventions in educational administration and the measures of educators' intrinsic motivation.

Method

Design

This study is a trend, descriptive and mixed-method study. Trend study, as one of the longitudinal design, focus on factors and tests the same topic on different samples at different times. Trend studies have advantages to show the accuracy by repeated implementations as refraining from attrition and pre-test sensitization (Cohen et al., 2007; Fraenkel, Wallen and Hyun, 2012). This study

is also *explanatory sequential design* of mixed study (Creswell, 2014) because it first collected quantitative data through four cross-sectional studies then collected qualitative data to give meaning the quantitative finding. Figure 1 depicts the study's model, which has three main steps. The first, including four sub-steps, involved in identifying PIMES on different samples in different times. The second step aimed at finding out the trend of PIMES in reference years. The last step investigated the role of EPI in explaining the trend of PIMES. We looked for the compliance of the study with human rights and ethical principles. Its compliance was approved by the relevant board.

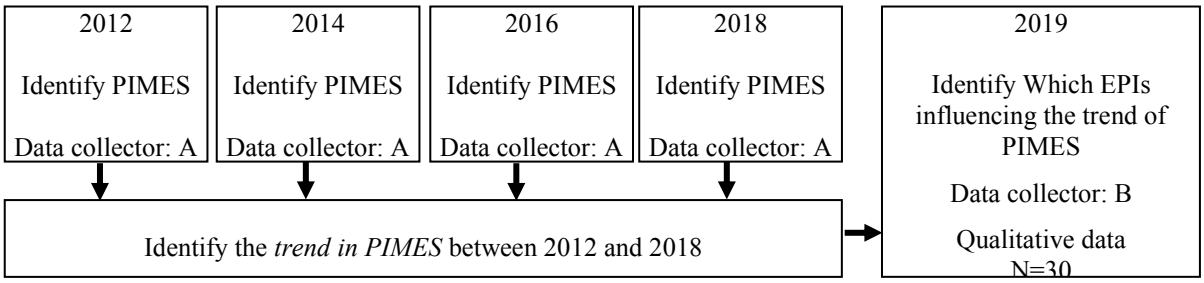

Figure 1. Research design

Context and Participants

In line with the international trend, Turkey public management has experienced a major transformation for the last 20 years. Along with the New Governance Approach, nation-wide policy interventions were implemented. Introducing a *performance-based evaluation system, attempting to change the permanent job status* with the contractual one*, redesigning the school administration* and *establishing a telephone line (Alo 147)* through which citizens can notify the central authorities about educational matters in school were some of the EPI (Karabağ et al, 2018; TEDMEM, 2018). Teachers denoted the educational policies posed by Ministry as the most problematic area among other problems (Esen, Temel ve Demir, 2017).

The population of this study consisted of teachers and school administrators. The study drew five different samples for each data collection phase. According to Cohen et al. (2007), drawing different samples from the same population overcome the "pre-test sensitization" in longitudinal studies. Participants, who have different professional experiences, came from schools located in the city center, town or village across the country. Table 2 shows the participants' characteristics. We first attained randomly selected 549 educators from the population consisted of a total of 630 teachers and school administrators coming from very different geographical regions between March-June 2012 to participate in *Aksaray In-Service Training Institution,* which hosts educators and provides them a centrally organized specific training course during five days (EURYDICE, 2019). In the second step, we gathered data from educators attending to the end of school year compulsory seminars organized

in June 2014. We first purposefully selected schools located in five different locations in Aksaray province. Then, we randomly selected 241 educators from different subjects in public primary and secondary schools. In the third step, two-stage random sampling was administered. The population consisted of 3 154 educators working in 124 schools located in the city center of Aksaray province in the school year 2015-2016 (DNEA, 2016). We grouped schools into separate lists based on the level (primary, lower secondary, upper secondary). To be able to cope with it, we randomly selected schools by 20 % of them from each stratum. The sample consisted of totally 324 educators from 25 schools.

Table 2. Participants of the study

Characteristics			2012						
			1	2	3	4	5	6	Total
Gender	1: Female; 2: Male	f	359	185					544
		%	66	34					100
Subject	1: Pre-primary.; 2: Classroom; 3: Lang-Social; 4: Math-Science.; 5: Art-Craft; 6: Other	f	82	337	79	13	27	7	544
		%	14.9	61.9	14.5	2.4	5.0	1.3	100
Total profession experience	1: 1-5 years; 2:6-10 years; 3: 11-15 years; 4: 16-20 years; 5: 21^{+}	f	210	83	102	85	64		544
		%	38.6	15.3	18.8	15.6	11.8		100
School level	1: Pre-primary; 2:Primary; 3: Lower secondary; 4: Upper secondary	f	27	392	118	7			544
		%	5.0	72.1	21.7	1.3			100
Experience at current school	1: First year; 2:2-3 years; 3:4-5 years; 4: 6-10 years; 5: 11^{+}	f	188	99	141	87	29		544
		%	34.6	18.2	25.9	16.0	5.4		100
Educational level	1: Associate; 2:Bechelor; 3: Master; 4: Doctorate	f	34	485	22	3			544
		%	6.3	89.2	4.0	0.6			100
			2014						
Gender	1: Female; 2: Male	f	114	118					232
		%	49.1	50.9					100
Subject	1: Pre-primary.; 2: Classroom; 3: Lang-Social; 4: Math-Science.; 5: Art-Craft; 6: Other	f			132	85	15		232
		%			56.9	36.6	6.4		100
Total profession experience	1: 1-5 years; 2:6-10 years; 3: 11-15 years; 4: 16-20 years; 5: 21^{+}	f	32	59	96	32	13		232
		%	13.8	25.4	41.4	13.8	5.6		100
School level	1: Pre-primary; 2:Primary; 3: Lower secondary; 4: Upper secondary	f		25	207				232
		%		10.8	89.2				100
Experience at current school	1: First year; 2:2-3 years; 3:4-5 years; 4: 6-10 years; 5: 11^{+}	f	55	71	59	30	17		232
		%	23.7	30.6	25.4	12.9	7.4		100
Educational level	1: Associate; 2:Bechelor; 3: Master; 4: Doctorate	f	3	219	10				232
		%	1.3	94.4	4.3				100
			2016						
Gender	1: Female; 2: Male	f	144	166					310
		%	46.5	53.5					100
Subject	1: Pre-primary.; 2: Classroom; 3: Lang-Social; 4: Math-Science.; 5: Art-Craft; 6: Other	f		94	102	92	22		310
		%		30.3	32.9	29.7	7.1		100
Total profession experience	1: 1-5 years; 2:6-10 years; 3: 11-15 years; 4: 16-20 years; 5: 21^{+}	f	61	73	66	49	61		310
		%	19.7	23.5	21.3	15.8	19.7		100
School level	1: Pre-primary; 2:Primary; 3: Lower secondary; 4: Upper secondary	f		104	188	18			310
		%		33.5	60.6	5.8			100
Experience at current school	1: First year; 2:2-3 years; 3:4-5 years; 4: 6-10 years; 5: 11^{+}	f	57	78	108	47	20		310
		%	18.4	25.2	34.8	15.2	6.5		100
Educational level	1: Associate; 2:Bechelor; 3: Master; 4: Doctorate	f	21	266	22	1			310
		%	6.8	85.8	7.1	.3			100
			2018						
Gender	1: Female; 2: Male	f	172	212					384
		%	44.8	55.2					100
Subject	1: Pre-primary.; 2: Classroom; 3: Lang-Social; 4: Math-Science.; 5: Art-Craft; 6: Other	f	12	145	112	56	41	18	384
		%	3.1	37.8	29.2	14.6	10.7	4.7	100
Total profession experience	1: 1-5 years; 2:6-10 years; 3: 11-15 years; 4: 16-20 years; 5: 21^{+}	f	61	82	69	69	103		384
		%	15.9	21.4	18.0	18.0	26.8		100
School level	1: Pre-primary; 2:Primary; 3: Lower secondary; 4: Upper secondary	f		154	147	83			384
		%		40.1	38.3	21.6			100

Experience at current school	1: First year; 2:2-3 years; 3:4-5 years; 4: 6-10 years; 5: 11+	f	73	135	89	46	41	384
		%	19.0	35.2	23.2	12.0	10.7	100
Educational level	1: Associate; 2:Bechelor; 3: Master; 4: Doctorate	f	34	312	37	1		384
		%	8.9	81.3	9.6	.3		100

The fourth sample included educators coming from different provinces to attend to the in-service training course organized in *Aksaray In-Service Training Institution* between May-July 2018. Randomly selected 387 educators participated in the study. For descriptive studies, the minimum sample size was satisfied because it should be over 100 or more than five times the number of items (5x17=85) (Fraenkel et al., 2012; Seçer, 2015).

The last participant group, included 30 educators, was purposefully selected to satisfy the maximum variety. It consisted of educators from different provinces, different education levels, different subjects, and different professional experiences. We reached them through communication information on schools' web pages. Then we phoned them to ask whether to take part in the study. After getting their approval, interviews were implemented through online communication and all were completed between 25 February and 08 March 2019. We reached the aimed number of interviews after performing the 46 initiatives. The study group consisted of 15 male and 15 female educators. Three of them were administrators and the rest of them were teachers. Three teachers were working at the pre-primary level, 12 of them were classroom teachers and five of them were math-science teachers. In terms of professional experience, 14 teachers had less than 10-year experience and 11 educators were working in village schools, 12 were in the city center.

In total, the number of female educators (53.7 %) is more than the number of male counterparts (46.3%). When considering the subject variable, classroom (39.8%) and language-social (28.9 %) teachers are represented with higher proportions. The proportion of math-science teachers is 16.7 %. In 2014, there are no pre-primary and classroom teachers and the majority of teachers were language-social. The educational level of school shows the higher proportion rate of primary (45.7 %) and lower secondary (44.9 %) across the years. Participants' professional experience indicates a younger workforce because the proportion of educators working in their first ten-year is nearly half of the whole number. School experience might be important for their motivation level. While one-fourth of them were working in the first year in their current school, nearly half of them were working at the current school for four years or more. 87.2 % of participants have a bachelor's degree and only 6.2 % of them have a master's degree.

Data Gathering Instrument

We used two different instruments. At the first step, in line with the scale development procedures of AERA (1999), we tried to generate a valid and reliable data gathering instrument, which was scaled with five Likert (1: Definitely, it does not express me, 5: Definitely, it expresses

me). The validity of the instrument was satisfied by the techniques of criterion validity, independent expert views, and theoretical validity. For criterion validity, we considered the motivation theories (summarized in Table 1) and prior research results. Fraenkel, et al. (2012) defined theoretical validity as developing items based on the theories. *Autonomy*, *purpose, competence*, and *affiliation* are mostly used as the measures of IM (Abos et al., 2018; Guerriero, 2017; Hennefer, 2018; Kıran and Sungur, 2018; Mahler et al., 2018; Pink, 2009; Praetorius, et al, 2017; Ryan and Deci, 2017; Sivertson, 2018). Three experts, who had doctorate degrees on *educational administration*, *assessment and evaluation* and *official language*, independently examined the instrument. The instrument was redesigned based on their suggestions. We checked its reliability on a pilot study (N=319). We selected participants through two-stage random sampling in the city center schools in Aksaray province. More than half of them were female (54.9%) and very experienced (11^{+}years=52.7%). Their majority worked in primary (42.6%) and lower secondary (48%). The internal reliability score (Cronbach's Alpha, α=.894) confirmed its reliability. Then, the corrected item-total correlation indicated that M_{15} and M_{22} were inconsistent with the dimensional structures in EFA because of their lower scores than .30. Therefore, we excluded them from the instrument. After exclusion, scores of the rest of 17 items (Table 3) were between .334≤r≤.710.

Table 3. Descriptive statistics of items across the reference years

Items	2012 N=544		2014 N=232		2016 N=310		2018 N=384	
	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S
M3. I make decision related with my profession on my own self.	4.35	1.06	4.67	.61	4.39	.83	4.10	.98
M9. We make professional decisions with my colleagues.	4.04	1.20	4.33	.91	4.09	.87	3.92	1.00
M13. After evaluating others' suggestions I make own decision.	4.57	.83	4.64	.69	4.42	.76	4.28	.85
Autonomy (α=.659, N=319)	4.32	1.03	4.55	.74	4.30	.82	4.10	.94
M11. I have an enthusiasm for doing professionally new things.	4.55	.83	4.51	.86	4.34	.78	4.22	.85
M27. My future professional plans make me excited.	4.31	1.01	4.01	1.20	3.90	1.02	4.00	.91
M28. I have carried out my professional goals in this school.	3.88	1.25	4.00	1.03	3.80	1.00	3.54	1.03
Purposeful (α=.511, N=319)	4.25	1.03	4.17	1.03	4.01	.93	3.92	.93
M2. I experiment new things in my profession.	4.57	.75	4.68	.59	4.34	.80	4.05	.94
M6. I involve in new things in my profession.	4.49	.85	4.59	.72	4.32	.81	4.20	.86
M14. I use technological devices in my profession effectively.	4.42	.87	4.40	.89	4.27	.76	4.04	.94
M16. I regularly read the professional publications (book, article…).	3.87	1.15	3.87	1.18	3.72	.96	3.64	.99
M20. I look for effective ways to execute my profession better.	4.68	.64	4.57	.79	4.49	.65	4.28	.80
Development oriented (α=.752, N=319)	4.41	.85	4.42	.83	4.23	.80	4.04	.91
M7. I talk to my colleagues on the professional matters.	4.70	.74	4.70	.66	4.47	.78	4.33	.87
M24. I demand help from my colleagues to improve myself.	4.40	.95	4.29	.96	4.03	.94	3.49	1.07
M25. I suggest new techniques and materials to my colleagues.	4.67	.66	4.65	.65	4.40	.73	4.11	.84
Affiliation (α=.737, N=319)	4.59	.78	4.55	.76	4.30	.82	3.98	.93
M10. I have knowledge and skills that my profession requires.	4.56	.81	4.74	.57	4.49	.72	4.30	.75
M12. Even in adverse condition, I can perform my profession.	4.38	.94	4.43	.83	4.18	.80	4.17	.83
M19. In somewhere else, I can carry out my profession successfully.	4.55	.82	4.65	.66	4.47	.72	4.27	.78
Self-efficacy (α=.750, N=319)	4.50	.86	4.61	.69	4.38	.75	4.25	.79
Professional Intrinsic Motivation (α=.894, N=319)	4.41	.90	4.46	.81	4.24	.82	4.05	.90

We checked the structures through confirmatory factor analysis (CFA) as using SPSS AMOS 24. We considered the goodness of fit indices (χ^2/df≤5, p=0.000, .05≤RMSEA≤.10, .95≤CFI≤.97,

.95≤NFI≤.97, .90≤GFI≤.95) (Tabachnick and Fidell, 2013). Indices (χ^2/df=2.26, p=0.000, RMSEA=.063, CFI=.924, NFI=.873, GFI=.916) indicated a good-fitting model. Then, the main study run by using the instrument. Test-retest (.77 ≤ r ≤ .97) in 2012, 2014, 2016 and 2018, confirmed the reliability of the instrument, too (Fraenkel et al., 2012; Seçer, 2015). Items and its descriptive information can be seen in Table 3. There were five dimensions namely *self-efficacy*, *autonomy*, *affiliation*, *purposefulness* and *development-oriented* in the data-gathering instrument. *Self-efficacy* explains that someone has a belief of capability to carry out the task successfully even it is difficult (Bandura, 2001). *Autonomy* is defined as making a decision on professional matters on your own or with group members (Lauermann, 2017).

As a highly centralized system, the X education system decides *curriculum* and *relevant materials* including textbooks. Educators in school can evaluate the books and make suggestions at the end of each academic year (EURYDICE, 2019). *Affiliation* defines whether colleagues, administrators or pupils have good relationships. *Purposefulness* represents that someone wants to carry out challenging professional goals making her/him very enthusiastic about achieving it. *Development-orientedness* means practicing innovative techniques or approaches to teaching activities and making an effort to improve yourself professionally (Buchanan and Huczynski, 2017; Dönmez, 2013; Demir, 2019; Robbins and Judge, 2015; Schermerhorn, 2012). On the other hand, the qualitative data-gathering instrument was a semi-structured interview form. It aimed at finding out the participants' views and experiences related to the educational changes and their effects on PIMES. We first asked them to talk about the educational changes they experienced in last ten years (2010-2019). Their past narratives recorded. Then, educators were asked to talk about how these changes affect their professional life relevant to their instrinsic motivation. Similar technique was used by Esthope and Easthope (2000). During the interview when they asked info about these elements of *intrinsic motivation*, researcher gave brief information about them.

Collecting and Analysing Data

Quantitative data collector was implemented, when participants convened for professional development activity, they filled out the instrument individually. After coding forms and transferring data into the computer, quantitative data were analyzed in IBM SPSS 22 statistical package program. We first checked the missings, outliers, and duplicates. We performed descriptive statistical techniques (*frequency, percent, mean and standard deviation*), exploratory factor analysis (EFA), F Test, and Eta Square test. We interpreted the continuous scores between 1.00-1.79 as very low; 1.80-2.59 low; 2.60-3.39 medium; 3.40-4.19 high and 4.20-5.00 very high. We tested the theoretically suggested measures of PIMES by EFA, which confirmed the five-dimensional structures but item M_9 went under the *affiliation* instead of *autonomy* (KMO=.93, p=.000, Principal component, varimax rotation, fixed number factors=5 total variance explained=.59). Because of the major consistency

between theoretical dimensions and EFA outcomes, we kept the theoretical dimensions as computing indexes. F ratio is calculated as the variance between groups divided by variance within the group. A large F ratio refers to big variability between groups. We used the *year* as the independent variable and *PIMES scores* as the dependent variable. To find out the effect size of the significant variance, we computed Eta square (η^2). Effect size refers to the ratio of the dependent variable's variance associated with the independent variable. It shows the intersection area of independent and dependent variables (Tabachnick and Fidell, 2013). We used Cohen's classification to interpret the amount of effect size. Between $.01 \leq \eta^2 \leq .05$ is a small effect; between $.06 \leq \eta^2 \leq .13$ is a medium effect and between $.14 \leq \eta^2$ is a large effect size (Pallant, 2015).

By content analysis we analyzed the qualitative data coming from participants' narrates were first transferred into the Excel worksheet in considering two questions. The researcher and two independent official language teachers, as working together based on the consensus, looked for which events affect their motivation. After identfying the events and their effects on the elements of intrinsic motivation (*autonomy*, *professional goals*, *professional development*, *self-efficacy* and *cooperation with colleagues*.) we ordered them based on the recurring patterns.

Results

Professional Intrinsic Motivation Level and Its Changing Across the Years

Table 4 displays the change in the educators' PIMES between 2012 and 2018. In general, they had a high level of PIMES perception ($\bar{x}$=4.28, S=.52). Except for the year 2018, educators perceived the very high level of PIMES. Mean scores were $\bar{x}$=4.41 (S=.48) for 2012, $\bar{x}$=4.43 (S=.43) for 2014 and $\bar{x}$=4.23 (S=.46) for 2016. However, it was $\bar{x}$=4.04 (S=.56) in 2018.

Table 4. Changing in the PIMES scores across the reference years

Measures of PIMES	2012		2014		2016		2018		Total	
	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S
1.Autonomy	4.32	.69	4.53	.52	4.28	.57	4.08	.69	4.28	.66
2.Purposeful	4.25	.76	4.13	.78	3.99	.71	3.90	.69	4.08	.75
3.Development-oriented	4.33	.63	4.35	.60	4.14	.58	3.96	.69	4.20	.65
4.Affiliation	4.59	.59	4.52	.57	4.27	.64	3.98	.72	4.35	.68
5.Self-efficacy	4.50	.65	4.58	.53	4.36	.57	4.23	.63	4.41	.62
6.PIM	4.41	.48	4.43	.43	4.23	.46	4.04	.56	4.28	.52

Figure 2 visualizes the change in PIMES. It shows a slight increase in PIMES scores between 2012 and 2014 since then we saw the regular decrease in PIMES scores. A similar trend was also valid for all components of PIMES. For instance *autonomy* (1) had the scores of $\bar{x}$=4.32 (S=.69), $\bar{x}$=4.53 (S=.52), $\bar{x}$=4.28 (S=.57) and $\bar{x}$=4.08 (S=.56) between 2012 and 2018, respectively.

The relatively lowest score belonged to be *purposefulness* (2), which contains to have enthusiasm for professional innovations, and to have exciting professional plans in the future and to carry out the professional goals in the present school. Decreases in scores of perception about carrying out the professional goals in the school (Table 3) means that educators perceive a regular deterioration in organizational conditions supporting their desire. To be development-oriented is an important measure of PIMES. It consists of items such as reading regularly professional publications, looking for new and effective ways. However, it has a relatively low mean score ($\bar{x}$=4.20, S=.65). The most problematic side is about regularly *reading publications* ($\bar{x}$=3.64, S=.99 for 2018). *Self-efficacy* (5), on the other hand, has the highest scores ($\bar{x}$=4.25, S=.79 for 2018). They perceived themselves to have adequate professional knowledge and skills and to perform the profession even the adverse conditions. *Affiliation* (4) has the most severe decreases ($\bar{x}$=4.59 in 2012 and $\bar{x}$=3.98 in 2018) that inform declining of communicating, sharing and collaborating among educators.

Direction and Amount of Change in PIMES across the Years

Table 5 shows the direction and amount of change in the components of PIMES. Between 2012 and 2018, there is a negative decrease with -.37 points in average scores of PIMES. Among the components of PIMES, *affiliation* has the biggest decrease with -.63. For *affiliation*, the biggest decrease happened between 2016 and 2018. *Affiliation* defines talking with colleagues on professional issues, demanding help from colleagues and sharing materials and equipment with colleagues. The negative change indicates deterioration of interaction between educators.

Figure 2. Trend in components of PIMES

Table 5. Direction, amount and significance of changing in PIMES scores

Components	2012-2014	2014-2016	2016-2018	2012-2018	F	p	Η²
Autonomy	0.2103	-0.2442	-0.1975	-0.2313	23.438	.000	.046
Purposeful	-0.1125	-0.1437	-0.0834	-0.3396	17.944	.000	.035
Development-oriented	0.0157	-0.2051	-0.1790	-0.3684	30.161	.000	.058
Affiliation	-0.0699	-0.2449	-0.3152	-0.6300	80.192	.000	.141
Self-efficacy	0.0870	-0.2253	-0.1264	-0.2647	21.105	.000	.041
PIMES	0.0161	-0.2042	-0.1814	-0.3695	50.540	.000	.094

In order to test the significance of the negative trend, we computed the significance and its effect size through the F test and Η² test. In the F test, the year variable was the independent variable and average scores of PIMES components were the dependent variables. Change in the average scores in PIMES components across the years was statistically significant at .001 level (F=50.54). That confirmed the significance of the negative trend in PIMES.

F scores showed that the most significant change occurred in *affiliation* (F=80.19). It was followed by *development-orientedness* (F=30.16). When we consider the effect sizes (Cohen's classification), change in the purposefulness, self-efficacy, and autonomy have the small effect size; but development-orientedness has the medium effect size. The effect size of the change in PIMES scores was significant at the medium level.

Educational Changes in Past Ten Years and Their Effects on PIMES

Semi-structured interviews indicated that educators' professional enthusiasm and goal orientation gradually disappears (n=22) and their striving for professional development weakens (n=19) as years past. Interviewees explained that though there are no frequent external interventions when they perform the job they do not have fully professional autonomy (n=24). All participants expressed having adequate knowledge and skills to be able to carry out the job successfully (n=30); however, they have difficulties in teaching with special needs children (n=9) and asylum-seekers' children (n=6). More than half of the interviewees stated a positive social and professional cooperation among colleagues (n=17).

Interviewees explained why their motivation decreases steadily (n=24). Some of them (n=6) mentioned about decreasing status of the teaching profession in the community. The most disturbing cause is notifying educators through Alo 147 telephone-line to the central authorities and in some cases, an investigation started (n=21). Explanation of X_{11} summarizes its effect: "Alo 147 became a tool for punishing educators. False complaints hurt us." Negative rhetoric and accusation of top-level educational administrators about educators in school (n=16) were also mentioned frequently. For instance, X_4 expressed that "I was very upset to see that a national education minister as saying on TV screens that teachers did not work hard." After the military coup in 2016, dismissing some educators from the teaching profession (n=14) seem to worry the rest of educators. X_{16} summarized it as saying that "I was very frightened by the dismissal of a friend who I worked with her for many years." Along

with the redesigning of school administration, the *appointment* of school administrators and their *job security* were abolished, the school administration was defined as temporary duty on teachers (n=11). X_{26} explained her experiences as that "Redesigning the selection system of school administrators ruined the school climate. Very experienced successful administrators were dismissed and they retired or sent to another school as a teacher." The other explanator of this event was *the introduction of performance-based evaluation system in education* (n=9). Experience of X_{17} explains the problematic side of this change: "I could not understand that people who have no professional knowledge and experiences have a role in making the decision about our teaching performance. For instance, students' evaluations of our performance cause many other problems."

Qualitative findings coincided with the quantitative findings. They confirmed a declination in their motivation. Furthermore, they explained which events effecting their motivation. Their explanations refer to policy intervention at the national level.

Discussion, Conclusion, Implementation and Suggestion

This study, using a mixed methodology, identified a trend in PIMES at four legged cross-sectional surveys (2012, 2014, 2016 and 2018). Then, it retrospectively investigated the role of EPI in explaining the trend in PIMES.

Although there is a negative tendency in PIMES, educators' IM is still high ($\bar{x}$=4.28, S=.52). This level is inconsistent with the majority of prior studies pointed to the medium or low level of perceived IM (Bieg et al., 2017; Hanus and Fox, 2015; Gobena, 2018; Hennefer, 2018; Mahler et al., 2018; Praetorius et al., 2017; Sivertson, 2018). Contextual and methodological differences might lead to such inconsistencies. For instance, in Germany, several studies found a medium level of IM for teachers (Mahler et al., 2018; Praetorius et al., 2017) and for the university students (Bieg et al., 2017). However, based on the *autonomy* perception Abos et al. (2018) revealed the high-level IM ($\bar{x}$=4.26. S=.50) of Spanish secondary school teachers (n= 584). A similar inconsistency is also valid for the USA. Hennefer (2018), using observation and interview techniques, found low level of PIMES (n=10) in schools located in Utah. However, using quantitative techniques Sivertson (2018) found high-level motivation ($\bar{x}$=3.79; S=.49) of successful teachers (n=155) working public schools in Arizona. Hanus and Fox (2015), in their longitudinal study, found medium level IM of university students (n=80) in Arizona. On the other context, prior studies found that Turkish teachers have high-level motivation which is consistent with this study (Demir and Karakuş, 2015; Kıran and Sungur, 2018). Comparing the results of different studies on educators' motivation indicates that Turkish educators perceived their motivation as higher than foreign countarparts did.

The current study figured out the significant negative trend in PIMES between 2012 and 2018. This negative trend was also confirmed by the qualitative data. Some longitudinal studies with

relatively shorter period (14 weeks) found stable results (Bieg, et al., 2017; Hanus and Fox, 2015) but Scherrer and Preckel (2019), by Meta-analysis, argued the significant decrease in the perception scores of students' IM in 1.6 year average time.

The current study found a regular decrease in educators' perception about all sub-dimensions of IM. This is the case for *affiliation* and *development orienting*. *Affiliation* as referring to relation, interaction and sharing between educators in school environment, the result means *deterioration of interaction among educators*. This result together with the decreasing in the score of development orienting refers the weakening of the school based learning (organizational learning). This argument is consistent with the statements of Guerriero (2017) that interaction and sharing among colleagues, as a functional tool of professional learning and specialization, correlated with the performance. Yıldırım (2018) found the positive relationship between the level of interaction between teachers and their learning performance. Furthermore, the motivational cycle proposed by Ryan and Deci (2017) explains that interaction between group members related with not only their performance but also their *enthusiasm*, *learning* and *competency*. In frame of relationship between *affiliation* and *learning performance*, the other relevant determiner is whether having challenging goals. Based on *the goal theory*, making arrangements enabling educators to work together for achieving the school's goals would result in better performance. This situation is also valid for characteristics described by McClelland. Aspiring for a particular goal can lead individual to make much effort (Buchanan and Huczynski, 2017; Demir. 2019; Dönmez. 2013).

Among the components of PIMES, the lowest average score was belonged to *purposefulness* that consisted of students' improvement through developing themselves in terms of professional knowledge and skills. Purposefulness also can refer to have intention to get a higher position (Demir, 2019). It drives educators to initiate new things and to be vigorous and vivacious (Lunenburg and Ornstein, 2012; Robbins and Judge, 2015; Schermerhorn, 2012). Decreasing mean score of being purposefulness signals of monotonous and routine professional life that in turn would negatively affect the school improvement. Similarly, negative trend of *development orienting* indicates the stability, avoidance of challenging professional goals and lack of enthusiasm for improvement. That also negatively affects students' improvement via low quality of teaching activities (Guerriero, 2017). Collaborative team working for achieving school's goals and leadership can change this scenery, positively.

Current study found a very high-level of *self-efficacy* perception alike previous studies (Lauermann, 2017; Yıldırım, 2018). In addition, prior studies suggested a powerful relationship between *self-efficacy* and IM (Pink, 2009; Guerriero, 2017; Ryan and Deci, 2000). However, in this study, deterioration in PIMES (-.37) is much more than that of self-efficacy (-.26) between 2012 and 2018. It weakens the argument of powerful relationship between self-efficacy and PIMES, at least for

this study. Instead, to be *development oriented* seems to be key component of the intrinsic motivation because it had nearly the same trend with that of PIMES and significant positive medium size relationships with the rest of components (*purposefulness, affiliation, self-efficacy and authority*). Therefore, *development orienting* emerged as a promising measure of PIMES. However, *self-efficacy* is not a functional measure because nearly every educators argue that they have adequate knowledge and skills to be able to carry out the teaching job.

Negative trend in PIMES indicates an educational problem as stated by Pink (2009). Based on this assertion, we can ask that what might be the problem leading to the steady decrease in PIMES. The results obtained from the qualitative phase of the current study refers to the role of EPI in forming PIMES. This result confirmed the argument of *The Motivation Crowding Theory* (Frey and Jegen, 2001). Karabağ, et al. (2018) found the negative effect of educational policies on teachers' motivation. Based on the teachers' view, Esen, Temel and Demir (2017) found that the most significant problem is educational policies, which might cause the negative consequences. It can be inferred that educators negatively reacted to these EPIs. For instance, interviewees explained that misusing, exploitation and unfair accusations through Alo 147 resulted in educators' reaction towards political positions. In addition, it refers the way of making and implementing the educational policy. An international study of OECD showed that 79.2 % of educators in Turkey says that policymakers do not value their views (OECD, 2020). If the genuine views of educators had been known, such EPIs would not have been practiced. Therefore, it can be suggested that educators in school were disregarded in the process of developing and implementing the EPIs. According to Lin and Miettinen (2019) such situation is a typical symptom of a top-down policy. This result also indicates that implementation of an EPI may cause to unintended consequences. For instance, *performance based evaluation system* resulted in confusion and anger because educators refused to be evaluated by parents and students. Whereas political bodies proposed it as 360 degrees evaluation in education (TEDMEM, 2018). In this regard, external incentives would also intervene the impact of IM on performance (Cerasoli et al., 2014). Lack of communication and interaction between top-level educational authorities and school educators might have led to unintended consequences. There are supporting studies indicating negative effects of top-down policy interventions on educators' motivation (Buldu and Er, 2016; Darling-Hammond, 2010; Friedman and Dougney, 2012; Fullan, 2011; Pink, 2009; Schleicher, 2018). For instance, Gobena (2018) stated that EPIs in Ethiopia have adverse effect on teachers' motivation. Recent studies stated a mistrust between managerial bodies and employees in public organizations including public schools (Sevinç, 2015; Uzun, 2020). Then, managerial bodies restrict the autonomy of subordinates and preserve their own authorities but give them responsibilities; as a result, civil servants have low level of job satisfaction. In addition, Buldu and Er (2016) explained a recent experience about the negative outcomes of top-down policy intervention in case of *starting age at the primary school* in Turkey. Despite the educators' resistance

considering the children's biological immaturity, policy makers insisted on starting at first grade earlier, and then its only one-year application it has been cancelled because of parents, children and teachers experienced several complexities. In similar experience in Chile, policy for supporting competition among schools resulted in decreasing the standardized scores of fourth grade students' self-esteem and motivation, civic participation and healthy life style habits (Gajardo and Grau, 2019).

According to Brain et al. (2006), appropriate policymaking strategy utilizes educators' professional knowledge, skills and values. However, nearly two third of educators in Turkey argued that they have no influence on education policy (OECD, 2020). In addition, a *professional autonomy* within specific contexts can balance between top and down in making policy. Teachers' autonomy means that they make their decision on professional issues and practice them into the professional practices (Lauermann, 2017). Abos et al. (2018) found the significant and good relationship between teachers' vigour, dedication, specialization and their perception of *autonomy*. External interventions deteriorates the school educators' professional autonomy. Qualitative data in this study indicated that educators perceived the professional autonomy particularly when doing classroom activities. Lin and Miettinen (2019) argued an alternative strategy in policy intervention as the bottom-up approach that works based on the trust in teacher expertise, school autonomy in developing curriculum and pedagogy as well as on collaboration between schools and other societal actors. In line with this strategy, school autonomy balanced with accountability can enhance PIMES and children's improvement. Teachers' accountability accompanied with the systemic mechanisms can play key functions for constructing a balance between autonomy and policy interventions (Yıldırım and Yenipınar, 2019). Accordingly, administrative practices at the school level lead to relatively more positive effect on educators' motivation (Bektaş, 2010; Demir and Karakuş, 2015; Helvacı and Başın, 2013; Kıran and Sungur, 2018; Yenipınar, 2018). For instance, Helvacı and Başın (2013) found that school administrators are highly effective ($\bar{x}$=3.56. S=.82) in motivating teachers and satisfying the need of teachers' autonomy, affiliation and social relations adequately. Therefore, empowering school leadership can make positive effect on educators' PIMES. Educators' views and experiences delineates that changing in selection system of school administrators violates objectivity, equity and equality principles (TEDMEM, 2018; Yıldırım, 2014). In addition, application of school level institutional inspection play a role in bridging between the policy makers and school educators (Ehren et al., 2015; Schleicher, 2018). However, policymakers limited its role in policymaking (TEDMEM, 2018).

This study has some limitations. First of all, it has no assertion of causality because there might be other reasons in explaining the trend of PIMES. Then, the lack of longitudinal studies on PIMES seriously restricted the discussion. It has also limitations because of methodological issues. First, using different respondents each time might mediate the change in trend as stated by Cohen et

al. (2007). The study collected the data from volunteered participants so the IM scores might have been different from participants did not take part in the study. In addition, results are limited to the items used in the data-gathering instrument. Conceptual structure of the instrument needs to develop, specifically for *purposefulness* and *autonomy*. Measuring power of the items can be improved as adding new items such as "I stand out for delivering the most qualitative learning in my class/school", "I can adapt the curriculum to my particular condition." Furthermore, excluding private schools can be another limitation. Proportion of private schooling between 6-17 ages (compulsory education) in formal education is 10.35 % in Turkey (EURYDICE, 2019). Despite the limitations, this study contribute to the accumulation of research evidence. This is the first study that depicted the trend (observing different samples of the same population over years) in PIMES in different context and explained the role of EPI in this trend. In addition, this study has some differences from the prior studies in considering length (eight-year duration with four points), method (sequential quantitative and qualitative) and topics (explaining the role of EPI in the trend of PIMES). Overall, since this study had different contextual characteristics, it can contribute on expanding knowledge about the measures of intrinsic motivation.

At the end of the study, we concluded that being *development-oriented* and *purposefull* are the main indicators of PIMES. Along with the Motivation Crowding Theory, IM is susceptible to the external interventions. For this study, very urgent result is increasingly deterioration in educators' perception of *affiliation*. It means that collaboration among educators in school regularly decreases over the years that is a challenging problem for educational administrations. Top-level administration should cooperate with school educators in order to avoid using inappropriate policy instruments. Lack of positive interaction between higher administrators and school educators leads to harmful effects in making policy and finding appropriate policy instruments. Harmonising the authority between top and down in constructing EPI is likely to enhance PIMES. For implementation of the results, we suggest an establishing mechanism working on school autonomy accompanied with educators' accountability despite it is a challenging task for educational administration. In frame of hygiene theory, having confidence in educators and giving them authority and responsibility balanced by accountability would result in enhancing their PIMES.

Finally, this study make some suggestions for future researchers. This study has no causal argument for the role of EPI in explaining the trend in PIMES. Designing such study might contribute to the research realm. Furthermore, the studies focusing on the relationship between IM of employees working in different conditions and their performances can contribute on our knowledge about the IM. Measuring the IM needs still be improved regarding professional groups and contextual conditions. Being *development oriented* and *purposefulness* are the more applicable measures of IM instead of *self-efficacy*. In addition, next researchers had better improve the measuring power of

autonomy and *purposefulness* by adding new items. For its validity, consistency between conceptuality and applicability of the educators' IM might be studied. Therefore, we suggest the longitudinal studies on PIMES in different contexts.

The last note that when this report has been written, ALO 147 Telephone Line has been announced to close by the new Minister of National Education. Beside this intervention, high-ranking positions' positive rhetoric about educators seems to trigger a positive change in educator's motivation.

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